Trains

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for JUNE

Courtesy Santa Fe Magazine.

The first Diesel road freight locomotive.

Striking in its dark blue, bright yellow, vermilion, and bronze is this 5400-horsepower four-unit Electro-Motive Diesel-electric freight locomotive, first in the country and one of four built or building for the Atchison, Topeka & Santa Fe. This railroad uses the most Diesel power of any in the country, with 23 passenger units and 43 switchers.

Waybills

Fellow publishers, after looking at TRAINS, say, "You fellows must have a fairy godmother somewhere to put out such an expensive magazine for so little." And news dealers say, "That's too much price for so little magazine." Two interesting points of view, with the truth in between. The publisher sizes up the engraving costs, the immensely high costs of accurately editing highly factual information, and the fact that TRAINS serves a specialized field and so is forever doomed to a comparatively small circulation. The news dealer compares TRAINS with mass-circulation magazines selling hundreds of thousands of copies—all on one engraving and editorial bill.

TRAINS already sells more than 10,000 copies per month and is only beginning to tap its field. But it is an exceedingly expensive magazine. We use the best of engravings, so that none of the beauty and detail of our pictures is lost in reproduction. Four people work full time on the editing of TRAINS alone, twice again as many on mechanical production and the business end. Important facts and figures are always verified, and this means dozens of letters for each article. Huge files are kept for all information which will be of possible future use, and a single short article may have been collected over years. TRAINS had been definitely planned for half a dozen years when we issued the first copy last November. We weren't satisfied with it then, and we aren't now, but we hope you think we're improving.

A. C. K.

Trains

Editors: A. C. Kalmbach, Linn H. Westcott, Willard V. Anderson

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Cover and masthead photos, courtesy Chicago & Eastern Illinois, show C&EI's streamlined Florida train, Dixie Flagler, behind a streamlined Pacific.

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Through Cascade Tunnel

★ Three times the Great Northern hurdled the Cascades to get a low route to the Northwest.

By Victor H. White.

WOULDN'T a motion picture screen be interesting at the end of a railroad car? Wouldn't it be entertaining and educational to see a few dramatic scenes from the past as you move through the longest railroad tunnel in the Western Hemisphere?

In a few brief minutes we could learn how the West was really won. Sitting in the spacious luxury of the Great Northern's crack *Empire Builder,* in the 18 minutes it takes to traverse the new Cascade Tunnel (eastbound, up grade) we might see James J. Hill perfecting his dream, building his empire, stretching long ribbons of steel through sleet and ice and snow, climbing impossible grades with slow, laborious switchbacks, building towns, boring a tunnel into a mountain just to turn his trains around, holding back an entire mountain of mud and snow and ice with concrete and steel and finally, in January, 1893, finishing the shortest transcontinental line to the coast at Seattle.

Let's take the trip.

We're leaving Scenic, Wash., west portal. One minute from now we'll enter the tunnel; 20 minutes later we'll be at Berne (one mile east of East Portal). We will have traveled 7.79 miles under ground. In Winter it may be 20 above zero when we enter and 14 below when we leave, a difference of 34 degrees. In Summer it may be 15 degrees warmer when we come out than when we went in. But in either Summer or Winter, in the center of the tunnel it will be about fifty above.

There may be eight feet of snow at our entrance and barely a trace at our exit. But the eight feet at the west portal may melt in the early Spring while the east slope is still frozen and white. We may go from rain into sunshine or from shrieking blizzard into the refreshing chill of a calm blue Winter sky. In late Spring we may smell salt in the air as we enter and imagine the sweetness of Wenatchee Valley apple blooms as we leave. If you leave Seattle with certain types of sinus infection you may gain immediate relief by passing through the tunnel. A person with hay fever may travel the other direction and possibly find the same blessed relief.

But these are not the really interesting things. History lies over this tunnel; the struggle and sweat of men who had the vision to build it; the honkytonks with their sparkling-eyed women; the switchbacks with big rotary plows eternally hacking away at the fast drifting snow; the boom town of Wellington with roofs over its wooden sidewalks.

Well, our big engine is entering the tunnel now. The lights are on in the cars. We're going to show some railroad history on our picture screen.

In a corner of the club car a man is sitting. He is a big man, standing well over six feet and weighing nearly two hundred. He doesn't look his 68 years. He is neatly dressed and intelligent featured. It has been 50 years since his broad shoulders heaved a shovel of coal. He didn't stick long to railroading. But encourage him just a bit—and listen:

"My name is W. S. Dulmage," he'll tell you. "Yes, I helped build the Great Northern over Stevens Pass."

I know Mr. Dulmage well. "Tell us about it, Bill," I encourage.

He smiles and straightens up. It pleases him to have folks take an interest. "Well, I was just 17." As he goes along, like the powerful, dependable old railroader he is, he keeps getting up steam as he warms to his subject. Listen:

"I had met J. D. Farrell in Toronto. He was with the Canadian Pacific then and he gave me a note to a fellow named Kelly with the Great Northern at Hillyard. Kelly was a heavy Irishman with rosy cheeks, a man with the steel of railroading instead of blood in his veins. He laughed when he first saw me. 'You're just a kid; this is a man's job,' he said.

Collection of Albert Farrow, 138 10th St., S., Auburn, Wash.

Mr. Dulmage's Twelve-Wheeler looked like this.

The 400 series engines in the nineties were these Brooks-built 4-8-0's with big fire boxes, 20″ x 26″ cylinders working at 180 pounds pressure, driving 55″ wheels under a 156,000-pound engine. This combination developed a tractive force of 25,720 pounds with which to pull the cars. The engines were rebuilt with Belpaire fire boxes, renumbered in the 600's and are now Class G-1 while they last. This picture was taken in Washington in the late nineties and is now part of the collection of Albert Farrow of Auburn, Wash. Notice the link and pin coupler with a pushing device that could be swung over the pocket. A neat knot has been tied in the air hose to keep it from dragging between the rails.

"When I handed him J. D. Farrell's note, he grinned and amended his appraisal. 'Anyway, you're a husky-looking kid. Go over to Mrs. O'Reilly's and tell her I said to feed you.'

"It was after hours. Mrs. O'Reilly prepared a special meal and Great Northern food tasted as good that September night in 1891 as it has ever since. Other things have changed, though. I slept in a bunkhouse at Hillyard and had to fight bed bugs all night. At 6 a. m. I found myself with a job paying 40 a month. They put me to polishing an engine. That's how I started railroading.

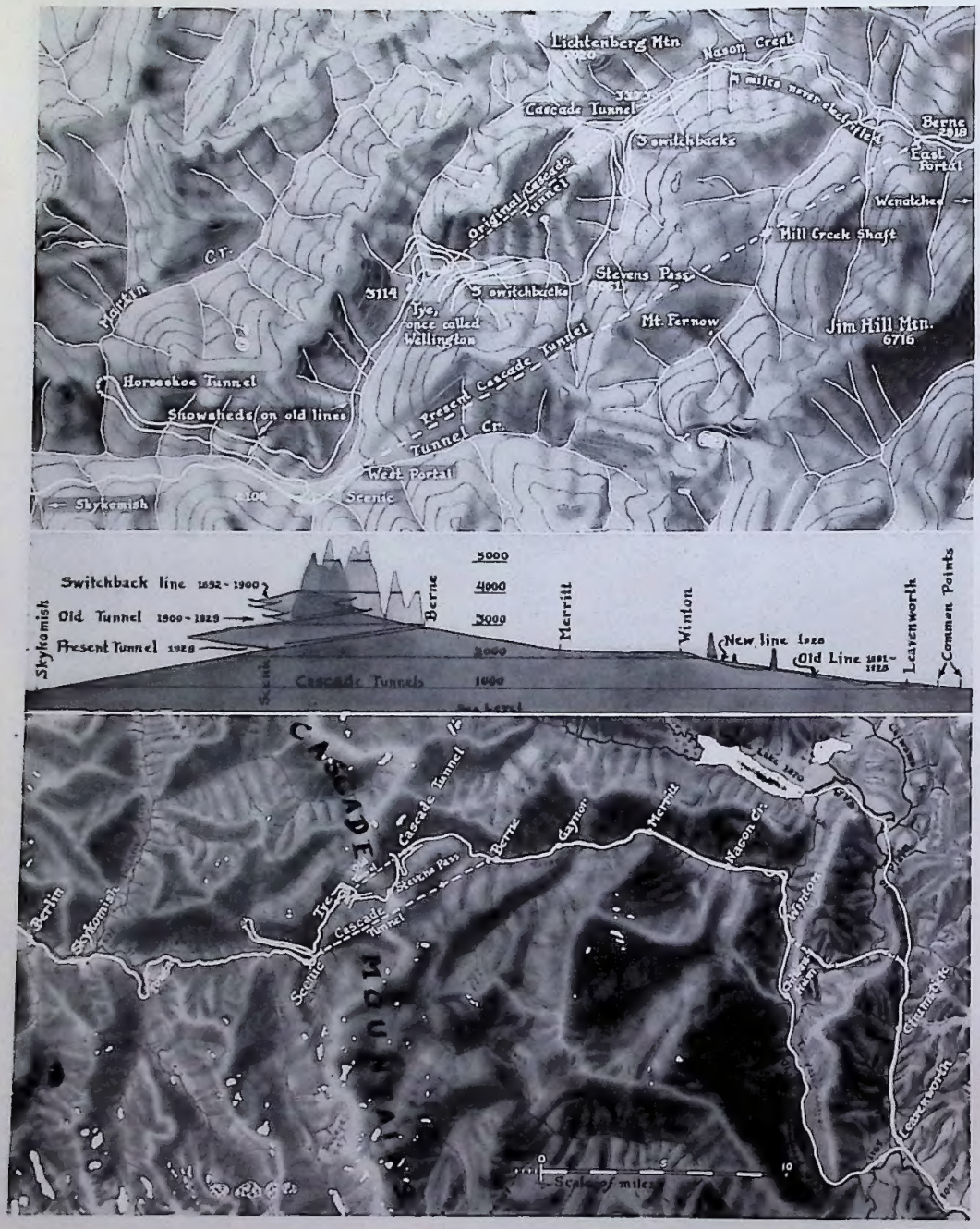
"A month later an engineer named Mac Dougal roused me out at 5 o'clock one morning. 'Hey, kid,' he said, 'think you could fire an engine?'

"I blinked sleepily and rubbed my eyes. 'I never fired one, guess I could learn.'

" 'My fireman's been drinking and I got 34 cars of rails to get to Leavenworth.'

"I was a husky young chap. In half an hour I was in the cab of engine 404, Twelve-Wheeler. Mac Dougall called the 400 series the Big Hogs. They were different from the engines used for regular work. They had an unusually large fire box that took up nearly all the cab. Mac Dougal was young, about 24; a clean-cut, sober fellow with a good education. He wanted to start me firing because, he told Kelly, 'The kid doesn't drink and he looks strong enough to do the work.'

"I didn't know how to spread coal in the fire box. Mac, as I soon learned to call him, showed me. We got to Leavenworth that same afternoon. Wenatchee, which is now a division point and has a population of 12,000, had three houses then. Leavenworth was



Linn H. Westcott.

Great Northern through the Cascades.

The bottom map shows, with a heavy white line, the greater part of the Cascades electrification of the GN. It also extends to the right to Wenatchee, 20 miles. Lighter white lines show track now abandoned: two old routes over the summit at the left, the old line through Tumwater Canyon to the right (grades and curves were bad), and an old lumber railroad that used to run from Leavenworth to Wenatchee Lake. White spots are lakes, stippled spots at bottom left, glaciers. The center panel shows the profile of the line in its old and new stages and clearly indicates why the new tunnel and Chumstick line were built. Top map is a detail of the new tunnel, old tunnel, and older switchback route. The old Horseshoe Tunnel is at the lower left. Since there were odd numbers of switchbacks on the oldest line, trains were actually backed over the summit at Stevens Pass, named for John F. Stevens, who discovered it.

filled with saloons and women. It was the road's construction headquarters, a wild place.

"We divided the train and went on up the mountain that same night. It was cold outside. But I had learned in one day that shoveling coal kept you at 103 in the shade even when it was freezing under the tracks. I worked stripped to the waist and plenty of perspiration was running down my back before we reached Cascade Tunnel.

"There was no tunnel there yet, however, but work had been started on the 2⅝-mile bore that took nine years to complete.

"That night we went up something like an eighth of a mile of wooden steps to the section house. Believe me, the Great Northern meal they served tasted good and I was looking forward to a comfortable place to sleep.

"But beds weren't for the men who switched construction crews and material over Stevens Pass in the Winter of '91. When we finished eating Mac said, 'Let's get back to the engine; maybe we can grab some sleep before anything else shows.'

"He meant we were on 24-hour duty. It was our job to help anything that came along over the switchbacks. Mac showed me how to bank a fire to keep a low head of steam.

This was the latter part of October. There were snow banks up to 30 feet on both sides of the track where the plows had heaped them. Mac had thoughtfully closed the cab windows and dropped the canvas curtains before we went to dinner. I had worked 14 hours and Mac cheered me by telling me we would get paid for 24. We sat on the cab seats and chewed the rag for a while. A little later Mac opened his box and lengthened it out. I took the hint and did the same. We slept right there in the engine.

"The 404 was practically new when Mac Dougal had taken her out of Hillyard that morning. She was our home, except for meals, till the following April. We slept in her cab every night. She never got entirely cold in the six months and she was never repaired till she limped, wheezing asthmatically, back to Hillyard the following Spring.

Mr. Dulmage could entertain you all evening telling how the Great Northern switchbacks went over Stevens Pass. It hardly seems possible that so much activity in snow and ice could have taken place over a thousand feet above the fine, comfortable tunnel we travel through now.

Upper, Great Northern; lower, Victor H. Whit
1923 26th Ave., N., Seattle, Wash

Scenes at Scenic.

The construction trains, like the dump cars in the lower picture, helped remove nearly a million cubic yards of rock from the mountains in boring the 7.79-mile tunnel. The only longer railroad tunnels are the Simplon (12.45 miles), Simplon No. 2, St. Gotthard, Loetschberg, and Mt. Cenis, all in the Alps. Moffat Tunnel is 6.11 miles long. The 7.79-mile-long Cascade was built in three years. It took nine years to drive the old Cascade Tunnel, only 2½ miles long.

"The eight switchbacks," Mr. Dulmage continues, "had already been built when Mac and I got up there. We worked them from Cascade Tunnel to Wellington (later renamed Tye). In clear weather we could look out the cab window from the summit and see men walking on the street in Wellington, like flies. With luck, we could make the trip in an hour and a half. But I have gone 36 hours without food when old 404 was snowed in.

"She got snowed in often. We were out all night many times. But the big plows and sometimes two or three hundred men with shovels would finally dig us out.

Victor H. White.

Oriental West.

The *Oriental Limited* was one of the crack trains of the GN in the twenties. Here it is, about to enter the old tunnel in 1923, just before the change from three- to single-phase power. (Notice the two trolley wires per track, used for three-phase current.) This picture was taken at Cascade Tunnel while the electric locomotive was being coupled ahead of the steamer for the run through the old tunnel, and to Skokomish. Today no trains can operate over this old line, but you can see the new tunnel by daylight westbound on local No. 5, eastbound on No. 6. The *Empire Builder* passes through the tunnel each way in the night.

"Many times we had to buck blizzards. Snowflakes would come down as big as silver dollars. They would pile up as much as a foot in an hour, sometimes to a total depth of over 90 feet. Mac and I often got out to help the brakeman push over a switch or work a frog. Sometimes they would freeze before we could throw them. We would have to run or back to the end of the switchback and wait. The switchbacks would hold only six or eight cars. Later, they lengthened the shortest ones and hired more men during cold weather.

"Some Saturday nights we would lay over a few hours at Wellington. It was a great town. Girls. Liquor, faro and poker. Dancing. The girls would come up from Leavenworth on the work trains. Sometimes they rode across with us on the engine. They danced in the saloons and after each dance led their men up to the bar.

"Neither Mac nor I drank anything. But I could play the piano. It was the only music available. The girls would give me a dollar for playing one dance. They got it back easily enough from the men. Incidentally, poor Mac died some years later when an engine carried him into the Wenatchee River."

Let us shift the pictures now on our screen:

There were no passenger or freight trains over the pass in the period fireman Dulmage tells about; only material and supply trains. They were building the road down the west side of the mountain, and digging the first Cascade Tunnel. West of Wellington great trees were felled for the first snowsheds that carried the numerous slides over the tracks.

From Wellington the line sloped steeply downward. Half way down, the mountainside joined another mountain and the trains ran straight up against an almost perpendicular barrier. There was no place to go except to turn around and continue back down the same mountainside at a lower elevation. But there was no place to turn around.

Great Northern engineers solved the difficulty by crossing a trestle just before the two mountains came together and tunneling straight into the mountain that stood in the way. They swung the tunnel in a semi-circle to the left and came out of the same side of the mountain on another longer trestle that carried the tracks back into snowsheds directly below the sheds on the line above. On the old *Oriental Limited* you could sit in the observation car entering the tunnel and wave to the engineer who was crossing the trestle coming out. He was somewhat below you because the track kept losing altitude. After proceeding several miles through sheds, gradually dropping farther and farther, the track swung again in almost a complete circle, this time to the right, and you steamed into Scenic, the same little mountain town we left before we entered this new eight-mile tunnel.

A tunnel 2⅝ miles long was begun at Cascade Tunnel shortly after the switchback line

Courtesy Great Northern.

Cascade motive power.

Part of the 25-million-dollar cost of the tunnel project was the electrification and relocation of much of the line east of Berne, and the purchase of new locomotives. This is No. 5012 at the head end of local No. 5, leaving the west end of the tunnel.

Collection of Albert Farrow.

Tye was then called Wellington.

At the lower left of this old photograph is the construction work on the first Cascade Tunnel. In the background is Stevens Pass with the four levels of track approaching it to the right. A sharp eye can detect three trains working up the zigzag, as well as several of the old timber trestles. Taken about 1898.

was opened. It was finished in 1900, electrified and used continuously until January, 1929. Until 1923, three-phase power was used with two pole trolleys working simultaneously to get the power from each of two trolley wires. During early construction days (1891 and 1892) as many as four hundred men battled snow and cold to put the first work trains over the top of Stevens Pass. At the peak of operations in building the present tunnel, 1793 men worked simultaneously on 11 working faces. These faces were made accessible by drilling a smaller "pioneer" tunnel . . . but we must pause here. We are coming into Berne. From here on a clear day we can look straight back 7.79 miles and see a tiny blur of light, the west portal of the perfectly straight tunnel we just came through.

I hope you've enjoyed the ride. We have told you nothing and seen nothing on our imaginary screen at the end of the car except what has happened in the past right over our heads, the story of the railroad going over the divide of the Cascades before this new tunnel was built. And we've touched only the high spots.

There's little left above us today. Wellington is gone. Its dance halls, the several miles of switching tracks which once were there, its roofed-over sidewalks . . . every last board of it is gone. Nobody lives on the top of the mountain now. The place called Cascade Tunnel is gone.

The old tunnel, though, is still there. The snowsheds, in which the old original fir logs were long ago replaced with reinforced concrete, still rather vainly hold up the crumbling mountain, although some of their wooden parts have been burned away. The horseshoe tunnel that turned around inside a mountain is still there. A highway winds up and over Stevens Pass today. It crisscrosses the old original switchbacks. You can hardly see them now, unless you know just where to look. They are grown over with bushes and trees.

The Passenger Train

★ The railroad, primarily a freight institution, maintains the most dependable, safest means for personal travel.

*By Martin D. Stevers.**

CHRISTMAS EVE afternoon in Grand Central Station, New York City—and a busy, thronging scene, if ever there was one! The huge, vaulted room, usually so aloof for all the warmth of its cream-colored marble and the gay, Gargantuan Christmas wreaths hung about, looks positively crowded now. Families abandoning the metropolis for a Christmas "back home"; students from Eastern colleges, likewise homeward bound; thousands of bundle-laden commuters, dashing through toward the lower level where suburban trains depart.

Before the ticket windows, some thirty in all, are little lines of people—people who decided at the last minute to forget depression and "go home" anyhow. Up they move, inch by inch, to the little grilled wickets; they hand in their money and move away, pocketing potent little colored slips of pasteboard or paper—railroad and Pullman tickets, commanding the services and resources of the railroad.

And how is it all worked out? How is it that these scores of thousands find trains waiting for them, that Pullman ticket holders find their accommodations ready, hours or even days later? How is this human whirlpool oriented, decanted into channels, whisked out of the city to its thousand and one destinations?

Let us watch a Pullman window and see the process start.

A burly individual in a blankety-looking overcoat stands outside. "Lower to Indianapolis tonight—6:20," he snaps, and grandly tosses a hundred-dollar bill on the counter. "Get it near the center."

"Yes, sir." The clerk repeats the request into a telephone—repeats some numbers he hears—and writes them on a pink Pullman slip. These, a railroad ticket, and change, are handed out, and the burly individual is on his happy way.

A timid-looking, motherly woman in her late thirties takes his place.

"I'm taking my two children back home to their grandmother in Terre Haute next Thursday," she commences. "The little girl is sick, and I thought we'd need a compartment—"

"Yes, madam. I'll see what we can do. Do you want to leave Thursday, or to reach Terre Haute Thursday?"

"Oh, leave Thursday. When can I go?"

"We have trains leaving at 3 in the afternoon, and at 6:20, 7:45, and 11:45 in the morning."

"Oh that would be just right. Give me a ticket on that train."

Again the telephoned interchange of numbers, with a bit of conversation, including mention of the sick child—and the woman departs with her tickets, while a group of college girls demand space "all together" for Chicago on the first train out.

By now we begin to sense what a labyrinthine business it is. The immense variety and complexity of routes available, the vast network of Pullmans rolling over the land, weaving their pattern of through runs, and back of this, the amazing mixture of human joy and sorrow; hope and despair; business, pleasure, and disaster, that sends all these folks ajourneying. Here indeed the steel trail is performing one of its greatest services!

Now to follow through the process by which all this torrent of ticket purchases is transmuted into seats on the train.

Here, to begin with, the railroad has its decades of experience with its runs, and we find the results expressed in its timetables showing the schedules of its trains. These

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* From his book *Steel Trails*, "the epic of the railroads" (Minton, Balch & Co., New York). Copyright. Timetable examples given are as of the time this was written and do not hold under new schedules. They are for explanatory purposes only.

represent a seasoned digest of the greatest variety of problems imaginable—not only the major ones of serving people wanting to arrive as early as possible next day in Chicago, St. Louis, Cincinnati, Detroit, Montreal, and New England points, but extremely detailed ones—like that of serving resorts in the Adirondacks.

When will people want to arrive there? Pullman passengers, obviously, in the morning; so main line trains 19 and 29, leaving at 7:45 and 9:30 every evening, carry sleeping cars to be cut off and sent up the branch. Adirondacks Pullman passengers from the West being extremely scarce in Winter, they must find accommodations in the Buffalo-Montreal car, scheduled to arrive in Montreal at 9:30 each morning. For those who prefer to leave New York after the theater, and arrive when they can, train 63 carries cars. In Summer this service is augmented by cars for week-enders; and since observation has shown that most of these people want all Saturday in the mountains, train 39, leaving noon Friday, carries out cars arriving at the favorite resorts on Friday evening.

Similar reasoning governs schedule planning over the approximately 12,000 miles of main line and branches served by the New York Central system—so if the usual railroad timetable seems a Chinese puzzle, remember that the railroads themselves are dealing with a Chinese puzzle in trying to give economical, yet satisfactory, service, to all the points they serve, throughout the country. Satisfaction requires that they run cars when wanted; but economy requires that they not only group people into carloads, but that they group cars into trains. It would be nonsense, for example, to run separate trains for the thin Adirondacks travel that is carried in Pullmans. Far better to carry these cars in main line trains, and cut them off at Utica for the Adirondacks branch. This results in the "branch line" complications which make timetables almost incomprehensible to many travelers.

Still, from all their experience through the

Streaking for Cincinnati.

The Chesapeake & Ohio's crack varnish, *The Sportsman*, rolls westward near Maysville, Ky., behind one of the railroad's classic super-Pacifics as it eats up the miles on the Washington-to-Cincinnati run.

Lucius Beebe.

years, the railroads can make a pretty fair guess about the making up of their trains. In the matter of dining car service they know the runs on which passengers will patronize a dining car, the runs on which a broiler-buffet car, serving light meals, will do, and the runs on which no car offering meal service could hope to find patrons. They know the ebb and flow of demand for Pullman accommodations, and how many cars will be needed on each train at different seasons of the year.

Also they can make a good guess at what will be needed in the matter of coach travel. Since coach passengers find seats as they can, the only remaining problem here is to keep an alert eye open for conventions, fairs, and athletic events, which might make more coaches needed, and, if enough business promises to appear, to arrange for extra coaches on each train, or even extra sections or specials.

The ticklish job calling for elaborate organization is that of providing accommodations for Pullman passengers. This applies both to sleeping car and parlor car service, since the Pullman Company furnishes the latter. The rub here is that the Pullman passenger is entitled to a particular seat, berth, or compartment, which is his against all comers; and the accommodation he buys must be provided. We saw part of the process and the clerk's telephone calls give us our clew to the rest. Suppose we follow through and see what is done.

Following along the telephone line, we reach a large, quiet room elsewhere in the station. In its center stand long racks of pigeonholes like those in a post office; in each pigeonhole nestles a bunch of cards, Pullman car "diagrams," core of the whole vast operation. Look at one.

At the top is a "car number" corresponding to the number you will see posted opposite the train gate. (While Pullman cars are named, the cars are handled by car number, since no one can know in advance which car will be assigned to each run.) Each regular Pullman-car run on the railroad has a distinctive number of this sort, identifying both the train and the car in the train; and in the pigeonhole is one card for the current day, and one for each day ahead for several weeks. Adjacent pigeonholes contain similar stacks of cards for other cars on the train; and so on for every train scheduled to leave the station.

Now let us see how our burly Indianapolis-bound individual was cared for.

We saw that the ticket clerk pressed a button before talking, and we heard him say, when his telephone came alive, "Eleven, Indianapolis, tonight—lower." The button had connected him with the pigeonhole clerk in charge of cards for this train. His five words, uttered strictly according to formula, tell exactly what he wants.

The clerk at the pigeonhole promptly scans the cards for train 11's cars that evening, finds the unsold lower nearest the center, and gives the car and berth number, and also notes what ticket clerk made the sale. The clerk writes these numbers on the burly individual's ticket and the space is surely his thereafter. Forty clerks in and about New York may be selling space on this train, but not one can give a car or berth number, except as he gets it from this diagram-room station; and at the station this space shows "Sold" on the diagram.

Now for our matron and her brood bound for Terre Haute.

Inspection of the timetable data covering her train, such as will be found in any through timetable under some such heading as "Sleeping, Parlor, and Dining Car Service," shows that this sale has a kicker in it. *There is no compartment* on any train leaving New York for St. Louis over the New York Central lines. The one type of car making this run is "12 Sec. D. R.," meaning that it has 12 open-sections and a drawing room. ("Type of car" is the correct term, since, while the timetable indicates only one car, others of the type will be added if there is sufficient demand for space.) The only compartments on the train are in the New York-Cincinnati and Boston-St. Louis cars. How, then, can this customer be sold a compartment from New York to Terre Haute?

On short notice, in all probability, she

***Panoramic Limited* nearing Pinecliff.**

This photograph was taken from palisades in South Boulder Canyon, Colo., where tracks of the Denver & Salt Lake climb toward Moffat Tunnel. Denver & Rio Grande's *Panoramic*, which uses this route, is now listed on the timetables as the *Exposition Flyer*, named for the Golden Gate Exposition of 1939-40. In this photo the nine-car train is double-headed by Pacific 801 and Mikado 1203. Tunnel is No. 28.

couldn't. But she has applied some days in advance; at this season, extra cars will have to be added anyway; so why not add one containing the accommodation she wants? Besides, sickness is an element to be considered; and obviously, even the small difference in price between a compartment and a drawing room will be important to her. So in this case the clerk presents the situation to the chief of the "Pullman Distributing Office," as this diagram room is called in official parlance, and arranges to have Thursday night's train carry a car with a compartment.

Another office in the building—the one where the makeup of trains is controlled—will show the follow-through on that.

First a telephone loudspeaker clinks into life.

"Bill! We want a 2-2-10 on 15 Thursday." "Bill," the presiding genius of this room, who is charged with making up trains, knows the voice on the loudspeaker as that of the diagram room chief. He knows, too, that he will receive a written order later; but time is important now. So he puts out his own order to all concerned directing that on Thursday, instead of making up train 15 with the regular 12-section, 2-drawing room car (a 2-12) and two "relief" or added cars of the same type, the second added car must be a 2-2-10—meaning two drawing rooms, two compartments, ten open sections.

R. H. Kindig, 3831 Perry St., Denver, Colo.

Thus the timid lady's compartment is provided; and the diagram room opens a new card, transferring all sales, number by number, from the old card, which is then destroyed.

And that, incidentally, is why it was unnecessary for the burly passenger to specify "near the center."

Sales are made that way without request, because this policy leaves the end berths unsold to the last, and thus facilitates making such changes in cars as the one required for the Terre Haute lady. (In the rare event that such a change necessitates a change in the numbers of sold accommodations, a written order is issued to all concerned, and the old numbers on the tickets already sold are honored for corresponding accommodations.)

So the diagram room works, hour after hour, day after day, in rush time and slack time, transmuting all these requests at the scores of ticket windows throughout New York City, into notations on its diagrams, while the travelers bear away tickets corresponding strictly to the notations. Modifications of the process enable New York ticket clerks to sell space on connecting railroads—say on the Rock Island's *Golden State Limited,* leaving La Salle Street Station, Chicago, for California, every evening. By train time the whole job to be done by each train stands recorded on these cards; and they control everything, even the Pullman conductor who finally "lifts" the tickets, thereafter.

This is so even after the train is running—for a few minutes before train time the day's diagram for each Pullman car in the train is hurried to an operator, who makes a photostat copy of it, and all the diagrams then are given to the Pullman conductor.

Thereafter they constitute his guide, his record of the run. If he sells additional accommodations, he notes each sale on the proper diagram; and at the end of the run the cards are turned in, together with tickets and money collected, to be audited carefully and filed in case of future question, by the Pullman Company's main office in Chicago.

So goes the normal work of selling Pullman space. An elaborate system it is; yet not one

detail can be dispensed with. For we must remember that the railroad is a mass transportation agency, one that marshals its customers into trainloads before transporting them, and does this for more than 1½ million people in a day. (The official figures, in customary terms, for a typical year show about 22 billion revenue passenger miles, with an average journey of about 37 miles.)

And the service is as complex in its ramifications as it is impressive in volume. One sale may be from New York to Yonkers, 14.5 miles away; the next may be from New York to Prince Rupert, British Columbia, some 3500 miles away. In the latter case, the clerk may be called to furnish Pullman accommodations all the way, and perhaps hotel reservations in Montreal and Jasper National Park en route. Or even to top off the trip with a steamer jaunt to Alaska and back, or a "circle" trip home through the Panama Canal. (In all probability, of course, a ticket-window clerk, faced with such a sale, would suggest to the customer that he will find chairs, literature, and a more satisfactory method of buying his ticket if he goes to the Travel Bureau, on the balcony of the station.)

But with all these intricacies and their duty, imposed by the law as well as by railroad regulations, of being right to the penny in their charges, these clerks still deal merely in slips of paper and cash in the till. They have organized the job, so to speak—put down, for each day, everyone who is to use Pullman space anywhere over the railroad; and they have summed the job up with a series of corrections in the standard list of cars sent to "Bill." "Bill" emits the results in the form of "consists," or lists giving the makeup of trains for the day—and that is the real job: working out, in cars weighing up to 70 tons, the program of travel organized by the ticket sellers with their slips of paper.

Courtesy New York, New Haven & Hartford.

"He wants to move in—says the figures show he's safer with us than at home!"

Earlier Passenger Service.

PASSENGER service of today can hardly be compared with that preceding 1870, before the advent of the Pullman car and the dining car. Those were the days of "high, wide, and handsome—anything goes, if you get away with it," not only in railroading, but in all American business. This attitude was the logical consequence, one might say, of a pioneer viewpoint suddenly endowed with great wealth, and not yet seasoned by experience, in the ways that wealth should be used. By this time, the original pioneer population had turned from grubbing in the soil to "slicking the other fellow" as the favored road to wealth. The ethics of the "Yankee horse trade" and the "Connecticut wooden nutmeg" now formed the universal rule of business. The lawyer who could outsmart the other side was a hero. The shadier his tactics, the smarter he was considered.

In business it was "dog eat dog," and let the smartest survive. Added to this was bedazzled admiration of the new "money kings," springing up everywhere. (The fact that many of these fortunes rested on profits made from shoddy clothing furnished Union troops, and other corrupt war deals, bothered nobody.)

This low state of business ethics cropped out in one great fight the railroads had at the time—a fight led by Allen Pinkerton, noted head of the United States Secret Service during the struggle between the North and the South. For these were days when, people said, the company's passenger revenue was determined by the conductor's act of tossing the day's receipts against the top of the car—and "whatever stuck was turned in to the company." Ticket scalpers—men who bought

the return coupons of round trip tickets and sold them at any price—flourished everywhere. One's passage, on leaving any important station, always ran past a block or two of scalpers' offices, each flaunting an array of large colored banners and placards shrieking bargains in tickets.

It was to fight conditions like this that Pinkerton was hired — and for years he worked in the background, suppressing freight thieves, weeding out dishonesty in the operating personnel, and suggesting better ways of controlling collections—ways which survive in such things as the personal signature required on many forms of round trip tickets, and gatemen who inspect the tickets before passengers board the trains.

It was in such a "catch as catch can" spirit that the railroads, already at each other's throats for freight business, went after the passenger traffic in the great competitive field of the day—the field of service between New York and Chicago. The Pennsylvania opened this war with a 30-hour train, which the New York Central promptly matched. Thereupon the Pennsyvlania cut the time to 27 hours, and the fare to $18. The Central's response to this gave America the use of an English idea, devised by John Ramsbottom for use on the London & Northwestern, nearly 10 years before.

At Montrose, south of Poughkeepsie, N. Y., the Central installed a *track pan,* serving locomotives with water on the fly. When running better than 40 miles an hour, a locomotive could scoop up from 2¼ to 3 gallons of water from each foot of length in the pan; so Ned Sandford, engineer of No. 43, found it easy to fill his tender from a pan 1200 feet long.

We can imagine the New York Central people promising themselves, once this time-saver was installed along the entire line, to run the Pennsylvania ragged. Similar rivalry cropped out between other railroads, and in other phases of service. It was truly an epoch, which lasted from the close of the Civil War until after the turn of the century, of speed runs, rate-cutting, and spectacular stunts designed to capture the public fancy and the business. Glimpsing a few of the stunts pulled off during this epoch will give us the flavor of it.

On June 1 of the centennial year, 1876, a train bearing Jarret & Palmer's theatrical company left Jersey City, ran non-stop to Pittsburgh, and then ran to San Francisco, making the whole journey in 83 hours 27 minutes. (The combined running time of the *Broadway* and *Overland* limiteds today is 76 hours.)

July 1, 1885, the West Shore ran a three-car train from East Buffalo to Jersey City in 7 hours 23 minutes. When the *New York World* sent Nellie Bly from New York November 14, 1889, to beat Jules Verne's *Eighty Days Around the World,* she reached San Francisco January 21. The Santa Fe put her in Chicago in 69 hours. Even with a slow New York run, she arrived at her destination after 72 days 6 hours 11 minutes, on January 25.

World's Fair year, 1893, brought forth some notable running. The New York Central's engine "999" ran a measured mile with the *Empire State Express* in 35 seconds (102.8 miles an hour speed) at Grimesville, N. Y.; and on May 11 No. 903 ran the same one-mile stretch in 32 seconds (112.5 miles an hour speed).

The year 1895 saw the great run made by the Lake Shore & Michigan Southern, Chicago to Buffalo, on October 24, with a train chartered by Dr. H. Seward Webb, to break a new British record for running 500 miles. The affair was a heart-breaker from the start, with time being lost everywhere and at Erie the crowning blow struck when it was learned that the expected Columbian-type engine could not be used.

Officials were in despair when engineer Bill Tunkey and a freight Ten-Wheeler were hooked on for the last hopeless effort. But how despair lifted when Tunkey got rolling! Seventy, 80 miles an hour and better! Dunkirk, N. Y., had a speed limit of 10 miles an hour. Tunkey went through at 82. They were abreast of their schedule now—they were pulling ahead—they rolled into Buffalo 8 hours 19 minutes out of Chicago, ahead of the British record, having averaged 64.98 miles an hour for the run.

The crowning achievement of these runs probably was Death Valley Scotty's run on the Santa Fe from Los Angeles to Chicago. Walter Scott had chartered the train for a thrill, and handed over $5500 to John J. Byrne, assistant passenger traffic manager of the Santa Fe, on July 8, 1905, for his fun. "Young man," said Byrne, as he put away

James D. Bennett, 19 Highland Rd., Stamford, Conn.

The pride of the Bangor & Aroostook Railroad.

The *Aroostook Flyer* is shown here leaving Brownville, Me., en route to Bangor and Boston connections. The *Flyer*, No. 2 on the timetable, leaves Brownville at 12:23 p. m., after starting the run from Van Buren at 7:05 a. m., and arrives in Bangor at 1:50 p. m. to connect with the Maine Central and Boston & Maine for a 7:20 p. m. arrival in Boston. With the exception of the baggage car, all cars behind the trim Ten-Wheeler are the latest in B&A streamlined equipment. The locomotive, No. 242, is of Class C-1 with 19″ x 26″ cylinders, 69″ drivers, 190 pounds boiler pressure. Tractive effort is 22,000 pounds. Engine weight without tender is 146,000 pounds. Built in 1902 (Manchester), No. 242 was originally numbered 62.

the money, "the Santa Fe will put you into Chicago in 46 hours, if steam and steel will hold together. We've got the roadbed, the equipment, and the men; don't forget that. But let me tell you that you'll be riding faster than a white man ever rode before!"

"Pardner," replied Scott, "I like your talk. Line 'em up all along the way and tell 'em we're coming."

Next day at 1 o'clock the *Death Valley Coyote* or *Scott Special* pulled out of Los Angeles—and at 11:54 a. m. on July 11 it stopped in Dearborn Street Station, Chicago. Two thousand, two hundred and sixty-five miles, nearly half of it over mountain divisions, had been traversed in 44 hours 54 minutes.

Perhaps the most widely publicized regular service is that of the New York Central's *Twentieth Century Limited* and the Pennsyl-

vania's *Broadway Limited* between New York and Chicago. These trains (the latter called the *Pennsylvania Special*) started a 20-hour service June 15, 1902, and by June 19, 1908, had cut the time to 17 hours 50 minutes.

Both of these extra-fast, fine trains had the novel feature of *extra fare*. The theory of this was that "standard running time," New York to Chicago, was 28 hours, and for this the standard fare would be charged. Trains making better time would charge a dollar for each hour saved, with refunds to be made, up to the total excess amount collected, for whatever amount of time the train might be late. (This principle endured until recent years, when the "excess speed" of 1900 had to be considered ordinary service, to hold the business against competitive services offered by airplane and even motor bus. Now the old "extra fare" is called a "service charge," and no refund is made for tardiness.)

However, this 18-hour schedule proved a bit in advance of railroading technique at the time. Not that the locomotives couldn't make it. That was no problem. But the fuel cost was enormous, and the speed was hard on the track of the day. So the trains went back to 20 hours, and there they stayed until April 24, 1932, when the 18-hour schedule was restored, with a cut to 17¾ hours on April 30, 1933. Running time of both trains is now 16 hours even. The *Pennsylvania Special* became the *Broadway Limited* in 1912.

In service too, rivalry brought intensive development—as in the classic "dollar dinner war" which followed inauguration of the Chicago, Milwaukee & St. Paul's overnight *Pioneer Limited* between Chicago and the Twin Cities. This train was introduced by a nationwide contest for the name, and promotion continued, after it started running, with a marvelous dollar dinner as the catch attraction (together with "longer, wider, higher" berths. The Milwaukee was nearly the only road then running its own, instead of Pullman, sleeping cars).

The dinner came up to the advertised claims, and travelers "went for," as well as "by," the *Pioneer Limited* in a big way, while Milwaukee officials enjoyed chuckles at the expense of the line's chief rival, the North Western, and its *North Western Limited*. But the North Western people were not to be caught napping. After studying the *Pioneer's* menus they came back with a "better dollar dinner," and began recovering lost prestige. The Milwaukee "upped" them, they "upped" back, and the war was on.

The bitter experience with earlier competitive wars soon brought them to an understanding, but the mark of it remained, and endures today, in the service offered by these roads on this run.

This period also brought expensive development of club, lounge, and observation car services. All these had been known long before—even the barber was included on some of the luxury trains carrying special parties, with which Pullman publicized his service; but now intensive refinements were introduced. Special decorating schemes, exclusive to one train, were introduced; the Burlington introduced the glassed-in "solarium" in place of the open observation platform, in 1909. What had been the howling luxury of a generation before now had become the regular service that all travelers expected.

Perhaps the most outstanding development of the entire period, from the engineering viewpoint, was the change from wooden to all-steel cars. The greatest single force making for this change was the Pennsylvania's project for tunneling under the Hudson to reach a terminal (opened in 1912) on Manhattan Island. One of the safety requirements of this project was that no wooden cars should be operated in this tunnel, so all-steel equipment was ordered from the Pullman Company.

The size of the order required that company to change its shops to an all-steel basis in 1908—which meant constructing all its new cars that way. And all roads soon fell into line, for while the change cost scores of millions and increased the weights of passenger trains enormously, the railroads had no choice. Once all-steel trains were advertised anywhere, travelers looked askance at any train offering wooden coaches or wooden Pullmans.

The "Luxury Car" Fight.

But in all the battling of this epoch, one fight stood out above all others. This was the fight between Pullman and his rivals to see who should have the "luxury car" business of the nation, for by now it was plain to all that such a service could be given only

by an organization operating over the entire nation, with uniformly high standards of service, and through cars over well traveled routes.

In this fight Pullman had two advantages. He had what proved to be his superior power as a fighter and an organizer. Also, he was backed up by the logic of the situation.

Logic, of course, suggested the wisdom of such a service. Railroads then could get cars as required in busy seasons, and not have money tied up in idle equipment during off months. The cars themselves could be shifted south and north, as seasonal demands changed, and fewer would be needed. Interline service would be easier; and, thanks to all these economies, the service could be offered to passengers for less.

The arrangement was the more tempting since the railroads, bled white by their constant battling and building of new lines, had little money for buying expensive passenger equipment. If some one else would run the cars and pay for the service by collecting a charge of his own, that was fine! The only question was, to whom would this rich plum fall? And the times knew only one way to answer. Let the rivals fight it out.

Pullman's spectacular start had given him a long lead over rivals, but two of them in particular were developing strength. The strongest of these, Webster Wagner's "Wagner Palace Car Company," organized from several smaller ones in 1863, owed much of its power to its arrangement with Commodore Vanderbilt whereby it, instead of Pullman, handled all business on the New York Central and allied lines.

The Wagner business—a boon to all professional jokesters while it lasted, owing to the simultaneous introduction of Richard Wagner's operas in the United States—was taken into the Pullman fold after a United States circuit court, in April, 1889, declared that it had infringed Pullman's patents on vestibule cars, and held it liable for enormous damages under the bond it had posted.

Another strong rival was the Mann Boudoir Car Company. The "boudoir" feature, devised by Colonel W. D. Mann and first used in Alabama, was what we would know as a compartment, in contrast with the Pullman open-section berth. These cars were extremely comfortable, but since they could not carry as many passengers as a Pullman, prices were higher. In addition, Colonel Mann

Bernard Corbin, Red Oak, Ia.

The *Aristocrat* whisks haughtily through Red Oak.

The 23-hour 55-minute Denver-to-Chicago train has no time to stop at Red Oak. Here No. 6 (the *Aristocrat's* timetable classification) breezes through the Iowa town at 65 miles an hour, headed by No. 3007 of Class S-4 (4-6-4). Drivers, 78"; cylinders, 25" x 28"; working pressure, 250 pounds; tractive effort, 47,700 pounds; weight without tender, 391,800 pounds. Built by Baldwin Locomotive Works in 1930.

diverted energy to promoting use of his cars in continental Europe, starting on the Vienna-Munich line in 1873. (Pullman had already won the lead over Mann in England.) The superior strength and wider service of the Pullman Company enabled it, in 1889, to absorb this business (which previously had joined with the Woodruff Sleeping Car Company to form the Union Palace Car Company).

Now Pullman was king of the field—and since 1882 he had possessed a capital city: Pullman, Ill., now part of Chicago. Here, on what had been a wild prairie in 1881, with a population of four people, rose in 1882 a mighty city, built to a uniform plan of red brick, in what the taste of the day considered the highest standard of comfort for inhabitants and beauty for all beholders. In 1882 the town of Pullman had 2084 inhabitants. The next year it had 8203—and when the Chicago World's Fair opened in 1893, the Pullman Company could invite exposition visitors to view a city containing 12,000 inhabitants!

During all this period of battling, improvements had not been neglected. Quite the contrary; for while the law and the railroads alike, in this period, were singularly indifferent to human safety while traveling, these companies were improving comfort and safety in order to use their achievements as *advertising features.* ("Our Pullman cars will preserve you in wrecks"—"Collisions don't kill passengers in 'Palace' Cars"—what a commentary upon the times!)

First among improvements was adoption of steel framing to strengthen the cars in case of collision, and stout six-wheel trucks. (The modern Pullman car truck, with six wheels weighing 900 pounds apiece, and three axles weighing 600 pounds apiece, totals 21,000 pounds in weight—more than the weight of the entire first Pullman car!)

But the greatest of all improvements looking toward comfort and safety was the *vestibule,* or enclosed platform at each end of the car. The original motive for this was said to have arisen when dining cars were put into service, and passengers, particularly women with voluminous skirts, found it a drafty and risky business crossing open platforms in search of meals, except at stops. But Pullman also had in mind ease of riding and, above all, preventing the telescoping of cars in case of accident. This particularly deadly type of accident occurred when the heavy platform of one car rose above its neighbor, and then, driven by the heavy framing, smashed into the other car body, slaughtering the passengers.

The vestibule was patented in the name of H. H. Sessions, who worked out the device under Pullman's supervision. It was placed in service in April, 1887, on the Pennsylvania, and it made Pullman cars havens of safety in case of accident, as well as providing safer and more comfortable passage between cars.

For the last step in

Collection of Melville Langhans, 6340 Justine St., Chicago, Ill.

Passenger train of the late eighties.

Engine No. 4 of the old Brooklyn Bath & West End Railroad ("Gunther's Road") proudly pulls to a stop at Bensonhurst-by-the-Sea, N. Y. This right of way is now the 86th Street trolley line to Coney Island; the scene, Bath Avenue and Bay 28th Street in Bath Beach. Notice the quick-loading open-air excursion coaches.

vestibule development—widening it to car width, with a drop-door to cover the steps—we may thank the fact that President Grover Cleveland was annoyed by a cold at the very time that a cross-country journey fell to his lot. Cold or no cold, he would have to appear on the rear platform to greet the populace of the towns traversed. To make this less of a trial the rear platform was widened, and the arrangement was seen to be so good that it was adopted for all cars.

Other comforts were the use of steam from the engine in place of stoves for heating, developed in the Winter of 1887; Pintcsh gas light, in 1883 (Pintsch gas was a brilliant illuminant, obtained from petroleum); and electric light, first tried out with storage batteries on a Pullman car running from London, England, to Brighton and back October 14, 1881, two years after Edison invented the incandescent light.

Railway Mail Service.

During all this period of battling another service was coming to the front—one which usually has contributed little more than a financial headache to the railroads themselves, but one which always was vastly important to them as an advertising feature: the United States mail, and the honor of being able to carry at the head of a train a car marked with that grand phrase, "United States Mail Railway Postoffice"! If a railroad could prove to the public that it was good enough to carry Uncle Sam's mail, it could be sure of getting the public's passenger business!

So the United States railway mail service got away to a good start and even to fruition, in this period of intense competition, after a feeble start in the "Forty-niner" days. After this first start flickered out, in the flames of the Civil War, modern railway postal service came as the creation largely of two men—Colonel George B. Armstrong, assistant postmaster of Chicago, and Colonel George S. Bangs, who carried on in battlings with the Post Office Department after ill health forced Armstrong to quit in 1871.

Armstrong started the service by persuading the old Galena line (soon to be the Chicago & North Western) to make over a baggage car into a railway postoffice; the car's first run was made from Chicago to Clinton, Ia., August 28, 1864. Later, the North Western built cars, and was in good position to carry the *Overland* mails for the Union Pacific, which it did until the Burlington came into the field in 1884, with its *Fast Mail,* which made the run in 16½ hours. (Today the faster of the two mail trains on the Burlington makes the run in 11 hours 15 minutes; and once, when delayed in starting, it was taken over the 500-mile run in 9 hours 14 minutes. This ability to rise to an emergency explains why the Burlington still handles United States mail on this run.)

In 1874 Bangs succeeded in persuading William Vanderbilt to run a 24-hour mail train between New York and Chicago on the New York Central. For this service Vanderbilt provided special cars, painted white, gold decorated, and highly varnished. The commodore warned his son to watch out for the government, but William went ahead, and hearing of this the Pennsylvania ordered a train made ready on a Saturday, received it a week from the following Monday, and entered the field.

Then, after 10 months' running, the government cut the pay—as the commodore had foreseen! William Vanderbilt, disgusted, withdrew his train. This was typical of the difficulties encountered by Armstrong and Bangs, in a day when the government seemed able to find plenty of money for many projects but none at all that it would spend for speed in railway mail service. Still, within 10 years, Bangs won his battle, through training the government in the idea of making mail service payments on a scale generous enough to tempt the railroads into providing the type of mail service we enjoy today.

The development of mail service, perhaps, can be called the culminating touch in the development of high speed passenger service today, and this development, like most others in the field, can be pronounced fairly complete by 1910. By that time everything concerned in passenger service had evolved into much the type of service we know today. The spectacular developments of more recent years are mostly improvements in the way of speed and comfort (especially air conditioning). Even the streamliners, flashing across vast stretches of country at speeds up to two miles a minute, owe their existence to a vast heridity of passenger carrying experience—more than 100 years of constantly improving organization and equipment.

Abraham Lincoln *

★ A President who realized the irreplaceable position of the railroads in our country.

ABRAHAM LINCOLN was a railroad man long before he was a national figure. He fostered railroads, pleaded their cases in court and traveled on them at every opportunity. After becoming President of the United States he hastened the advent of transcontinental transportation by rail, and helped to determine the standard track gauge of the country.

These facts, generally unknown, will be found in the yellowed records of railroads with which Lincoln was identified and over which he rode. They throw light on a side of the Great Emancipator's career that has received but little notice at the hands of his biographers.

From the time he was a boy, "Honest Abe" was interested in transportation. At first he favored the development of waterways, because he was familiar with them and thought they were cheaper to build and maintain than railroads. Later, however, he was one of the railroads' staunchest advocates.

As a legislator, Lincoln supported and promoted measures for the building of railroads. In fact, while a member of the Illinois Legislature, his enthusiasm overshadowed his better judgment, and he voted for an ambitious railroad construction program without much thought about where the money was coming from to carry it out. The last speech he made in Congress was on a "Bill Granting Lands to the States to Make Railroads and Canals," the passage of which he earnestly sought to accomplish.

After serving one term in Congress, Lincoln returned to Springfield, Ill., where he resumed the practice of law. Thereafter, until 1860, he acted on many occasions as attorney for several railroads, among them being the Illinois Central, the Rock Island, and the Alton. Most of his railroad cases had to do with land rights or were suits filed against the roads for personal injuries, the loss of cattle, and the like. By employing homely logic and simple, picturesque phraseology, he was successful in the great majority of instances.

Probably the two most important suits that Lincoln ever argued were for railroads—one for the Illinois Central and the other for the Rock Island. Both involved issues of far-reaching effect.

When the Illinois Central was granted a charter in 1851, the state exempted the railroad from taxation, in lieu of which the company was to pay 7 per cent of its gross revenues into the state treasury. Shortly after this, a county assessed the railroad, and the latter went to court about it. The railroad lost the case in the lower court, but appealed to the state supreme court and won. If the final decision had been unfavorable to the railroad, the millions of dollars that the Illinois Central would have had to pay in local taxes would have doubtless bankrupted the company. For his services in this case, Lincoln was paid $5,000—the largest legal fee he ever received.

Railroads and Bridges.

The celebrated Rock Island case concerned the right of railroads to bridge navigable streams. In the face of strong opposition from powerful steamboat interests and river cities, the railroad had thrown the first railroad span across the Mississippi (between Davenport, Ia., and Rock Island, Ill.). A few days after the bridge was open, the steamboat *Effie Afton* crashed into a pier and caught fire, destroying the boat and burning part of the bridge. The boat company claimed that it was an accident, and that the bridge "menaced transportation." The railroad charged that the boat had either deliberately run into the bridge or the pilot had been criminally negligent. At any rate, an action was brought

* Reprinted from the *Mutual Magazine* by courtesy of the Pennsylvania Railroad.

Courtesy Mutual Magazine, Pennsylvania RR.

Lincoln and Greenville M. Dodge discuss plans for building the Union Pacific, August, 1859.

by the steamboat company to recover damages for the loss of the craft, but in reality it was a test case to prevent such bridges from being built.

Lincoln was retained by the Rock Island, and the case was heard before the federal circuit court in Chicago. Besides endeavoring to show that the collision was intentional, Lincoln argued that "one man has as good a right to cross a river as another has to sail up or down it." He also pointed out that railroads operate the year 'round, while river traffic is halted during the Winter months. The jury disagreed, and not until years later did the United States Supreme Court rule that the bridge could remain. Had the decision been different, the entire pattern of railroad operations in this country would have been tremendously different.

Another way Lincoln served the railroads was as arbiter. He was often called upon to decide disputes between carriers. It was under his direction, also, that the first valuation of the Illinois Central was made.

An incident that might have changed the course of Lincoln's career is said to have occurred in the early Spring of 1860. The Illinois lawyer delivered a brilliant political address at Cooper Institute in New York City, and in the audience was Erastus Corning, president of the New York Central Railroad. Corning was so impressed by the speaker that he sought Lincoln the next day and offered him the post of general counsel for the railroad at a salary of $10,000 a year. Tempting as the proposition was, Lincoln declined it, saying that he wouldn't know what to do with so much money.

Railroads Important to Lincoln.

After becoming the nation's chief executive, Lincoln realized more than ever before the great importance of railroads to the development and safety of the country. Consequently, he played a leading role in the launching of the Union Pacific project, which was to link the East with the West. He advocated and signed the act chartering the railroad, decided the road's point of beginning and fixed the width of the track as 4'-8½" standard gauge. Unfortunately, his assassination by John Wilkes Booth ended his life before his dream of a transcontinental railroad line was realized.

Railroads were often used by Lincoln in going to court and to Washington during his political campaigns and on visits to the battlefields. It is said that he once rode in the pioneer Pullman sleeping car, which was originally tried out on the Alton between Springfield and Chicago.

During his lifetime Lincoln made two trips by rail that have gone down in history. One was his journey to Washington to become President; the other was to Gettysburg. A third trip that has been recorded in detail was when his body was transported to Springfield for burial.

The first of these journeys was Lincoln's long trip from his home at Springfield, Ill., to his inauguration in 1861. In the course of his trip he traveled from Jersey City to Philadelphia and Harrisburg over Pennsylvania Railroad lines, reaching the Pennsylvania capital at 2 p. m. on the afternoon of February 22, where he addressed a joint session of the state legislature attended by Governor Curtin. The original intention had been to stay overnight at Harrisburg and proceed to Washington the next morning, making use of the Northern Central Railway, now part

of the Pennsylvania System, as far as Baltimore.

At the last moment, however, in the interest of what was believed to be greater safety for Lincoln, plans were changed and the President-elect, accompanied by his intimate friend and bodyguard, Col. Ward H. Layman, and the noted detective, Allan Pinkerton, traveled secretly by night back to Philadelphia. There they boarded a sleeping car on the regular midnight express of the Philadelphia, Wilmington & Baltimore Railroad, another Pennsylvania Railroad affiliate, and reached Washington at 6 o'clock on the morning of February 23. Stepping unheralded from the train to a deserted station platform, Lincoln and his two companions were hurried to a waiting carriage.

A little less than three years later President Lincoln dedicated the battlefield at Gettysburg and delivered there the brief address which has come to be known as the most eloquent in the English language. For this occasion Lincoln and his party left Washington at noon on November 18, 1863, the day before the ceremonies, reaching Gettysburg a few hours later. The train passed over the tracks of the Baltimore & Ohio, the Northern Central, the Hanover Branch Railroad and the Gettysburg Railroad (the last two are now part of the Western Maryland). Eyewitnesses claimed that he wrote at least part of his historic address in his stateroom en route.

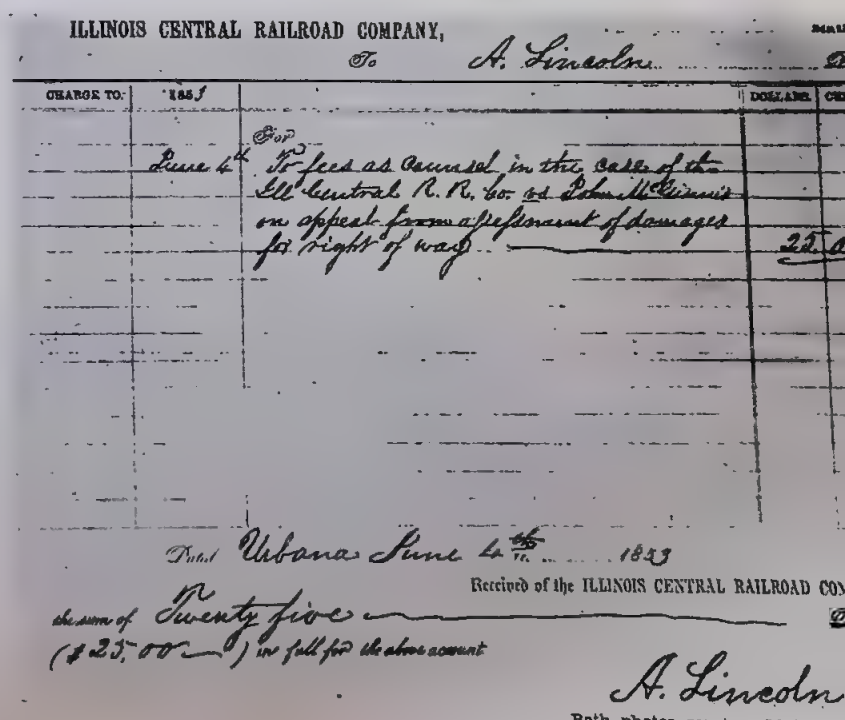
Almost exactly 2½ years passed and Lincoln had been assassinated. On April 21, 1865, the funeral train bearing his body began the solemn return from Washington to Springfield, which was reached May 3, after many stops on the way. During this journey the funeral train passed over the Northern Central Railway from Baltimore to Harrisburg, over the Pennsylvania Railroad main line from Harrisburg to Philadelphia,

Attorney Lincoln, 1856.

and over other Pennsylvania Railroad lines from Philadelphia to Jersey City and the Desbrosses Street Ferry to New York.

Beyond New York the train went over the New York Central & Hudson River, changing to 4′-10″ gauge track at Buffalo on the Buffalo & State Line Railroad. The same gauge followed on the Erie & North East, the Lake Shore, and the Cleveland, Columbus & Cin-

Receipt of payment for counsel, Illinois Central, 1853.



ILLINOIS CENTRAL RAILROAD COMPANY,

To A. Lincoln

CHARGE TO.	1853		DOLLARS.
	June 4th	For To fees as counsel in the case of the Ill Central R. R. Co. vs John McGinnis on appeal from assessment of damages for right of way	25.00

Dated Urbana June 4th 1853

Received of the ILLINOIS CENTRAL RAILROAD CO

the sum of Twenty five ($25.00) in full for the above account

A. Lincoln

Both photos courtesy Mutual

Courtesy Mutual Magazine.
Lincoln entering Washington for his inauguration.

cinnati lines to Columbus. Between Columbus and Indianapolis, the route was again on a Pennsylvania Railroad System line, then known as the Indiana Central Railway. The remainder of the journey to Springfield was completed via Chicago on the Illinois Central and the Alton.

Describing the car which bore the President's body to Springfield, James N. Wilkerson of Kansas City, Mo., said in a report on file in the library of the Chicago Historical Society:

"In 1863 arrangements were made for the building of a private car for the use of the President of the United States. Due to war conditions, the car was not finished until April, 1865.

"Lincoln was to have inspected it on April 15, to give it his approval before placing it in service, but his death intervened that day. It was then decided to use it as the funeral coach on the trip from Washington to Springfield.

"The car was first constructed with four trucks instead of two, and this resulted in a great deal of difficulty during the trip to Springfield. It ran awkwardly and great care had to be exercised in passing over switch points.

"After the funeral the car was sent to Chicago and the extra trucks were removed. It then went to Washington, where it was placed in storage until 1866, when it was sold at public auction and purchased by the Union Pacific Railroad. All of the furniture and furnishings that were in the car during its funeral service were removed by the Union Pacific and are now on exhibit in its museum in Omaha. The car was finally presented to the city of Minneapolis in 1905, and was on exhibition there until March 18, 1911, when it was entirely destroyed by fire."

The trip from Chicago to Springfield is described in *Abraham Lincoln* (J. C. Power, 1872) as follows:

"Lincoln's remains were on view in Chicago from 4 p. m. May 1 to 8 p. m. May 2, 1865. Left C&A depot at 9:30 p. m. May 2. Towns along the route were draped in mourning and the people had kindled bonfires and carried torches as they fired minute guns when the train passed by.

"Lockport, 11:33 p. m.

"Joliet, midnight—raining. Twelve thousand assembled at depot, with bands playing funeral dirge and choir singing, 'There is rest for thee in heaven.'

Lincoln funeral car on the old tracks of the Illinois Central by Lake Michigan, Chicago, 1865.

Courtesy Mutual Magazine.

Courtesy Mutual Magazine.

Arrival of Lincoln funeral train at West Philadelphia, Pennsylvania Railroad, April 22, 1865.

"Wilmington, 1 a. m., 2,000 people.

"Gardner.

"Dwight, 2 a. m. Bonfires, tolling bells, torches and funeral dirges made up demonstration at Odell, Cayuga, Pontiac, Cheona and Lexington.

"Towand, 4:30 a. m. Highest point between Chicago and St. Louis, being 128 feet above the water of Lake Michigan.

"Bloomington, 5 a. m. A large arch over the track read, 'Go to thy Rest.' Five thousand people assembled. Many from Bloomington also went to Chicago and Springfield. Crowds also met the train at Shirley and McLean.

"Atlanta, 6 a. m. Train arrived just as sun came up. One motto read, 'He saved our country and freed a race.'

"Lincoln, 7 a. m. Named for Abraham Lincoln by some personal friends before he was known to fame. Depot was draped in mourning and a handsomely constructed arch over the track bore a portrait of Lincoln and the motto, 'With malice to none, with charity for all.'

"Elkhart. A beautiful arch spanned the track, with the motto, 'Ours the cross, thine the crown.'

"Williamsville. The arch over the tracks bore the motto, 'He has fulfilled his mission.'

"Springfield, 9 a. m. Wednesday, May 3. Train arrived only one hour later than scheduled time, so little did it deviate from the timetable arranged before leaving Washington, twelve days previously. People by the thousands had been pouring into Springfield, anxious to be present at the reception of the remains of the President.

"Long before the appointed time of arrival of the funeral train, great crowds collected at the C&A depot and extended along the tracks for several blocks north. Every building in the vicinity was covered with spectators. Minute guns were fired by a section of Battery K, 2nd Missouri Light Artillery.

"A few minutes before 9 o'clock, the pilot engine made its appearance. As soon as the funeral car came alongside the depot, the coffin was transferred to a beautiful hearse, ornamented with a silver plate, engraved with the initials 'A. L.,' around which was a silver wreath, with two inverted torches and 36 silver stars, representing the states of the Union. It was drawn by six superb black horses, draped in mourning.

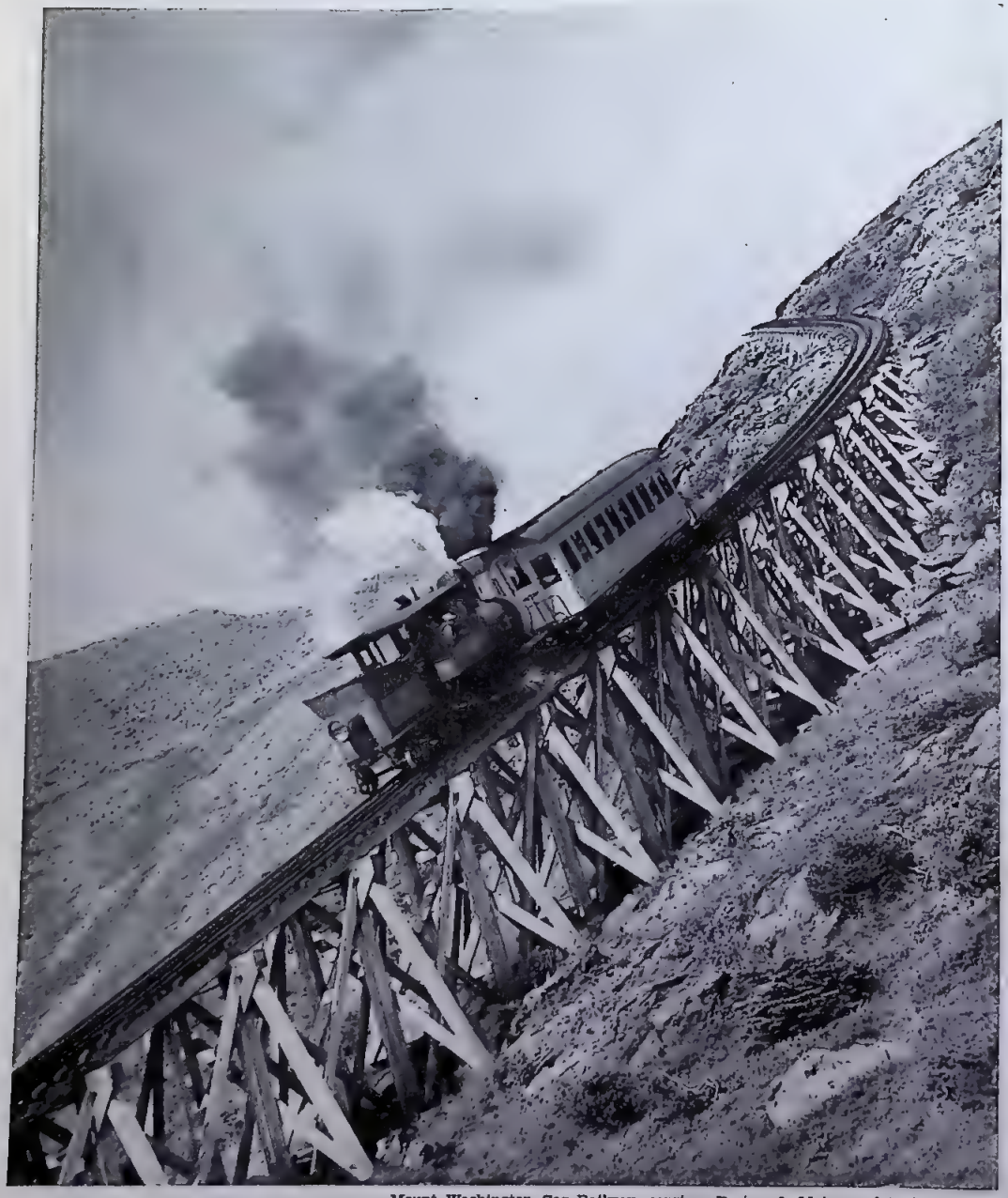
"The procession moved to the State House, where the coffin was placed on a dias, within a magnificent catafalque prepared for the occasion."

With the death of Abraham Lincoln, the nation lost a great man and the railroads a good friend. It was he who said that "no other improvement that reason will justify us in hoping for can equal in utility the railroad."

The *Chief*, eastbound, in Cajon Pass.

Walter H. Thrall Jr., 1023 N. Berendo St., Hollywood, Calif.

No. 20, crack all-Pullman Santa Fe flyer between Los Angeles and Chicago, makes its way over beautiful and difficult Cajon Pass in California as the big 3770 4-8-4 pulls it up grade at 40 miles per hour. This oil-burning locomotive will pull the high-speed luxury train to La Junta, Colo.



Mount Washington Cog Railway, courtesy Boston & Maine and Maine Central.

Jacob's Ladder creates a dizzy impression.

The steepest and most spectacular part of the Mount Washington Cog Railway crosses this trestle called Jacob's Ladder. Locomotives push their cars up this track as a safety measure, and to afford passengers a clear view of the mountain before them. This picture gives a realistic impression of the effect one gets while climbing the trestle. Actually the photo has been tipped to the left a small amount because railroads always seem steeper than they look in a photograph. Large trees don't grow at this altitude.

Geared to the Mountains

★ Mount Washington Cog Railway is oldest of its kind, the highest pike in the East.

By Lincoln Warren and H. S. Walker.

EVERY railroad has its own characteristics of length, brevity, odd rolling stock, ownership, and route; but for a really unusual pike you can't beat a scenic mountain climber.

The first cog road in the world is also the steepest in existence today. It is the 4′-7″ gauge Mount Washington Cog Railway, 3.17 miles in length, at Marshfield, N. H., opened in 1869, when the big news of the day concerned the completion of the Pacific Railroad to California. To date the Mount Washington Railway, highest in the East, has a 100 per cent safety record.

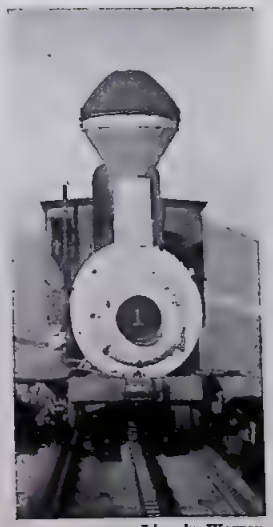
A cog road gets its name from a geared rack or third rail located between the two running rails. This is engaged by a gear underneath the locomotive. In this way the engine has almost perfect traction even on the steepest parts of the railroad. In the United States there are still two rack railroads, the Mount Washington line and the Manitou & Pike's Peak in Colorado. In Europe there are quite a number, some of them operated electrically.

We climb aboard at Base Station. The coach rests against a roller mounted on the front of the engine frame and a chain is thrown around an upright on the car frame. Suddenly there is a vibration and shaking that would dislodge a weak person's digestive tract. It is only the hogger helping himself to a handful of throttle. The fireman waves his scoop and with a blasting of exhaust we're off, ultimately attaining the dizzy, hair-raising speed of three miles per hour. The car, with 40 to 50 passengers aboard, is quite a load to push, so the whole engine shakes fit to fall apart.

Ammonoosuc River flows down the mountain past Base Station, and over this the train passes on a well built trestle. More than one passenger wonders if the train will stall altogether. Sitting at the hot end of the car, we can watch the boiler end change color due to the exhaust pressure. Soot rains down on the roof, platforms, and right of way.

Trees have been cleared for some distance on each side of the trestle, and we can see skunks, rabbits, woodchucks, and snakes in the grass (reptiles; there are no humans on the site).

We reach Waumbek Tank about a third of the way up the mountain. The name comes from the old Indian "Waumbekket-methna," which means "White Mountains." Here we alight and board another train of the same makeup which has descended from above. It has already refueled at the tank and coal bin adjacent to the track.



Lincoln Warren.

The coaches are pushed by a roller on the pilot beam of the geared locomotive.

The brakeman calls attention to the steepest section of the trestle, Jacob's Ladder, with a grade of 37 per cent. The average grade is 25 per cent. As we ride the platform we look down and decide to hang on a bit harder, for the jagged rocks 20 feet below are most uninviting.

The changing vegetation reveals that in a distance of less than two miles we have gone from the temperate to the arctic zone. Here have been found 126 species of sub-arctic plants and 63 arctic plants, many of the latter having no other home this side of Labrador. In time we reach timber line, above which nothing grows.

Linn H. Westcott.

The cog railroad is three miles long.

Base Station was once connected with the Maine Central by a standard gauge branch line, but autos now take travelers to the start of the mountain trip. Mount Washington is the highest peak in the East.

At Gulf Tank, two-thirds of the way up, we stop again, repeating the same procedure as before. As the sturdy little kettle of this third train blasts her way upward we pass a small, natural freak—a profile of a man—and, farther on, two graves. One is the cairn of Lizzie Bourne, 23, who died in 1855 attempting to reach the summit.

At last we round a long curve and pull up directly before Summit House. This, the third building on the site, was opened in 1915. We have reached an altitude of 6284 feet. The building is called Mount Washington Club, and contains a post office, spacious lobby, huge fireplace, dining room, modern bath rooms and steam-heated bed rooms to accommodate 140 guests. Fresh water is pumped by steam up the mountain at a pressure of over 1800 pounds per square inch.

Approaching Jacob's Ladder.

Another train can be seen in the distance. Notice the cog rail or rack in the center of the track.

Courtesy Mount Washington Cog Railway.

At the end of the trestle is the weather bureau building. To withstand Winter storms it is secured to the mountain by two stout cables thrown over the roof and made fast to cement anchors. The wind is very great at times, the highest velocity recorded being 231 miles per hour (April 12, 1934).

The entire surrounding view is well worth the trip. On a clear day visibility is as much as 130 miles, including, at times, a glimpse of New York and Canada. As we ascended we saw the Presidential peaks of Jefferson, Madison, and Adams. To the east we see Androscoggin River and across Pinkham Notch rises the grand Carter Dome with Wildcat Range to the right. A little to the south is a great view of Saco Valley, North Conway, Intervale Range and Sandwich Range, with the beautiful peaks of Chocorua, Pangus, Passaconaway, Whiteface, Tripyramid, and Sandwich Dome.

When the house bell rings we pile back into the cars. The brakie gives something that passes for a highball and we start down backward. The engineer uses stopping steam while the brakes are set on both engine and cars.

From the collection of H. S. Walker, 10 Winthrop Ave., Marblehead, Mass.

Sight-seeing in the eighties.

Trains and passengers pose by the summit hotel during the great travel boom of the late nineteenth century. Below is first No. 5, *Cloud*, built by Walter Aiken in 1870 with upright boiler and two 10″ x 16″ cylinders; rebuilt at Manchester in 1876 with horizontal boiler and four 8″ x 12″ cylinders. It was scrapped after a fire in 1895.

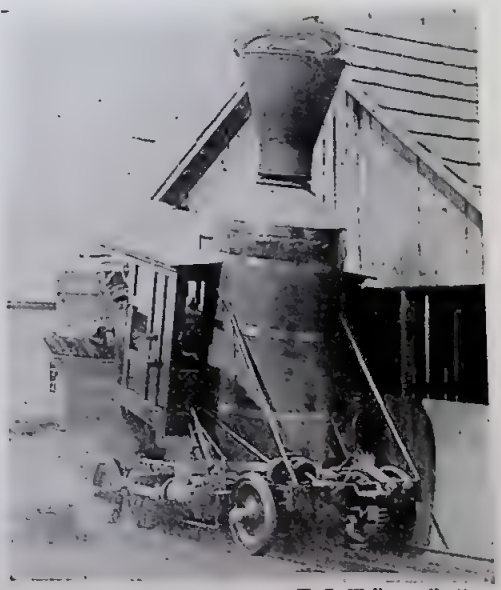
Generally, in the course of a round trip, one takes five different trains. Three are kept shuttling back and forth on the mountain at once due to a lack of sidings. However, this time it is different. Along the entire trestle runs a telephone line. As no train is waiting the brakeman gets off with a portable phone box, attaches the transmitter, cranks the handle and receives orders to proceed to Waumbek Tank.

Those riding the rear platform have by this time been liberally showered with cinders. Since I have no use for a seat on any trip like this, I get my fair share of dirt.

The railroad also handles small quantities of supplies to the summit. On the ascent we carried a sack of mail, three suitcases and a crate of strawberries.

In due course the Ammonoosuc is recrossed and we stop at Base Station. The fireman looks very much like a young Ammonoosuc himself after keeping the fire going to the tune of shoveling a whole ton of coal during the ascent.

First of the locomotives was old *Peppersass*, which had an upright boiler swung on trunnions; there was no cab. Invented by Sylvester Marsh, it was built by Campbell & Whittier, Boston, in 1886. The *George Stephenson* was the second, built by Walter Aiken at Franklin, N. H., with an upright boiler, one cog wheel and a pair of cylinders. Aiken then built four more. After they had run a few years Aiken redesigned them, fitting horizontal boilers and an extra pair of cylinders.



H. S. Walker collection.

Peppersass has long since been discarded, but a likeness of it was built in the twenties for publicity purposes. This second *Peppersass* ran off the trestle in 1929.

Names of locomotives in the early days were very interesting. There was *Hero* (*Peppersass* was its nickname), *George Stephenson, Eagle, Hercules, Atlas, Cloud, Tiptop,*

Top, H. S. Walker collection; left, Lincoln Warren, Howe Pl., Bronxville, N. Y.; right, Jim Morley, Etna St., Berkeley, Calif.

Locomotives have tipped boilers, or is it a tipped frame?

So that the water level will be properly maintained throughout the journey, boilers are mounted to run horizontally on inclined track; on level track they nose down. *Summit* is one of the modern engines, relatively speaking. Notice hose for water supply. Below are two views of trains crossing Ammonoosuc River just above Marshfield. Trees have been cleared at either side of the tracks to allow a better view until timber line is reached. Since there is a dearth of sidings on the line, passengers are relayed from train to train as they make the climb, each train doing shuttle service like the subway between Grand Central Station and Times Square, but of course slower, steeper, and much more scenic. Engines include such modern touches as the turbo-generator for car lighting, but still have ancient brass domes.

Falcon, and *Pilgrim.* Although most of these were built with two cylinders, many were converted with four, and the size of the cylinders decreased at the same time. *Peppersass* had 8″ x 12″ cylinders and *Stephenson* 10″ x 16″ cylinders. All the four-cylinder engines had 8″ x 12″ cylinders. When this rebuilding was made the boilers were all changed from vertical to horizontal. Most of the conversion work was done at Manchester in the late seventies. In 1895 there was a great fire in Lyndonville Shop of the Boston & Maine Railroad, and *Eagle, Atlas, Cloud,* and *Falcon,* which were in this shop for repairs, were destroyed. *Eagle* and *Cloud,* were scrapped and the others rebuilt and renumbered so that the roster after 1895 was: *Peppersass, Falcon, Atlas, Hercules,* No. 4, No. 5, *Tiptop,* No. 7, *Pilgrim,* No. 9—all with 8″ x 12″ cylinders.

No. 4 and No. 5 were interesting because they came from the Green Mountain Railway. This was an even steeper cog road located on Mount Desert Island in Maine. It ran from Eagle Lake to a hotel on the top of Green Mountain (now called Cadillac Mountain). Rails were bolted directly to the rocks on this railroad. It started operating in 1883, but was strangled by lack of business before 1895.

Present engines are tiny 0-4-0 types which have horizontal boilers tilted forward to keep the water more or less level and to prevent the fire from spilling out of the fire box while climbing. They are compound engines

Top and bottom, courtesy Boston & Maine; center, H. S. Walker collection.

Mount Washington events.

Autos can drive right to Base Station or to Marshfield, where there are stores, night accommodations and a view of the mountain. Top view shows start of trip; the Ammonoosuc is crossed just beyond the building. Center picture shows early construction train pushed by *Atlas* on Jacob's Ladder. Notice white top hats! Below, passengers change cars at Gulf Tank. Gulf Tank is named for a great ice-worn chasm called Great Gulf just a few feet north of the track. Water for the tank must be pumped at great pressure from streams below.

with two cylinders on each side, each cylinder operating one of the drivers which, in turn, drive the big cog mounted on an axle under the chassis. Despite the huge inverted-bowl-like screens atop the stacks, some sparks get by.

It may be a cinch being a fireman on a modern line-haul locomotive, but not on this road. The tallow pot wields a No. 4 banjo as hard as he can swing it for about 70 minutes. The coal leaves the scoop and is burned, seemingly, without touching the bed. Soot is blown up the stack under terrific pressure.

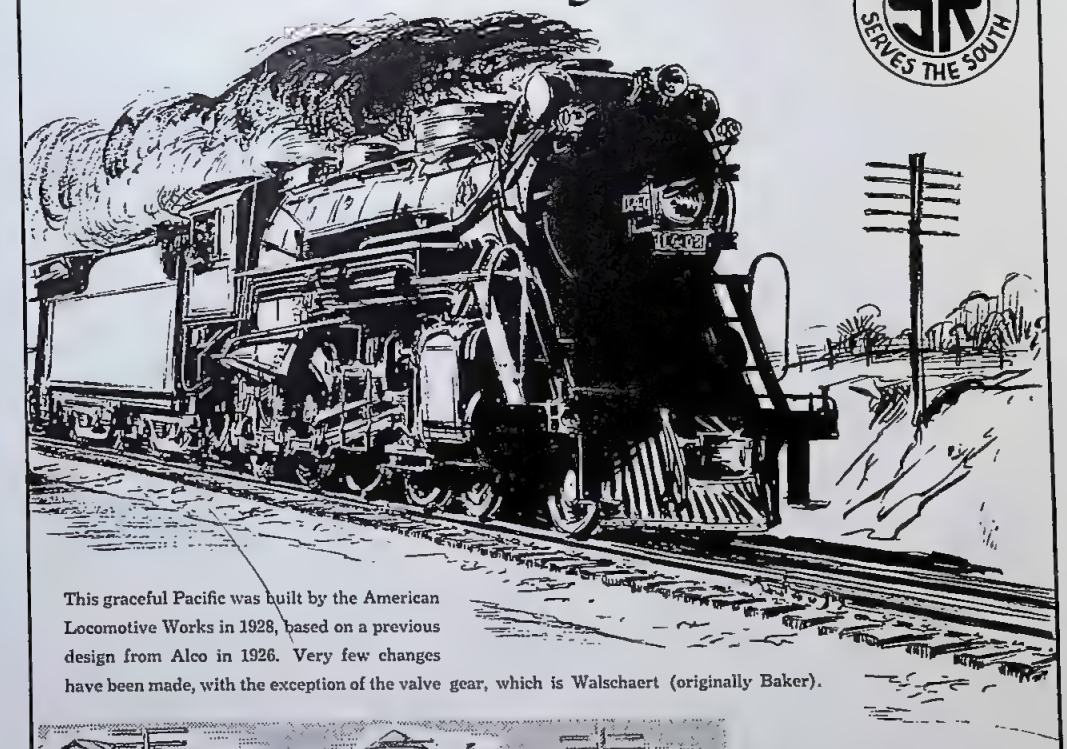
THE Mount Washington Railway preceded by over a decade the great number of scenic railroads built in the eighties. Construction was started in 1886 and it was opened to the summit three years later in July. For a while there was no connection between Base Station and the railroads of the rest of the country, but in 1876 a branch line of the Boston, Concord & Montreal Railroad was built from Fabyan to Bay Station, 6.70 miles, with a grade of about 250 feet to the mile. (Its construction was authorized in 1869). This was operated with a little Mogul, No. 29, named *Mount Washington*. When the railroad became part of the Concord & Montreal in 1890 the engine was renumbered 82, but five years later the Boston & Maine leased the line and again changed the number, to 782. Service between Fabyan and Base Station was abandoned officially in 1932.

H. S. Walker collection.

In days of old.

Above, the second *Peppersass* was built for publicity purposes as a copy of the first locomotive on the cog road. Fate didn't favor the idea, or perhaps *Peppersass I* haunted the scene, and *P II* tumbled over a trestle in July, 1929. Center, *Mount Washington*, a standard gauge Mogul used to do shuttle service between Base Station, shown here, and Fabyan, where it connected with Maine Central. Bottom, an early train at the very same point where the bottom pictures on page 32 were taken. Notice lack of vertical curves at this early date.

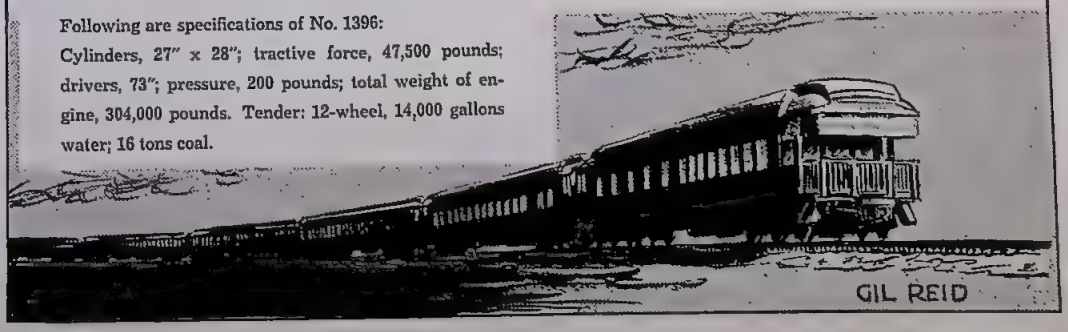
Southern Railway Ps-4



This graceful Pacific was built by the American Locomotive Works in 1928, based on a previous design from Alco in 1926. Very few changes have been made, with the exception of the valve gear, which is Walschaert (originally Baker).

The long, rakish pilot, the centered headlight and the bell placed at the top of the boiler front easily identify this locomotive as one of the Southern Railway family. Interesting to note are the odd placements of ladder handrails and of the two flag staffs directly onto the headlight bracket.

Following are specifications of No. 1396: Cylinders, 27" x 28"; tractive force, 47,500 pounds; drivers, 73"; pressure, 200 pounds; total weight of engine, 304,000 pounds. Tender: 12-wheel, 14,000 gallons water; 16 tons coal.



Courtesy Canadian Pacific.

Railroad builders' triumph: north shore, Lake Superior.

Here Canadian Pacific Railway's *Dominion* has traveled over mountains and plains for more than 2½ days since it left Vancouver. (It takes 83 hours for 2881.7 miles from Vancouver to Montreal.) There are two passenger trains each way each day as well as many freight trains on this section of the line. Notice the mountain-like terrain.

Between the Devil and the Deep Blue Lake

★ Beautiful scenery on the north shore of Lake Superior hides a tale of Herculean conquest.

PERHAPS no wilder and more forlorn region than the north shore of Lake Superior exists in the temperate zone of North America. The sagas of transcontinental railroad construction are mostly laid in the deep canyons and high passes of the Rockies. Canadian Pacific has its Rockies too [see "Canadian Spiral Tunnels," Dec. '40 TRAINS], but the true battle against Nature took place along the north shore of the largest and coldest of the Great Lakes. Here the terrain is in some places as precipitous as in the mountains. Here the temperature drops to the negative forties, numbing the fingers, the hands—even the arms and legs—of construction and maintenance crews. And constant maintenance is of prime importance, for here too is Lake Superior, sloshing away at the footings of the roadbed and often going on major rampages which remove rails, ties, and even the roadbed itself.

Little has been written about the 650 miles of wilderness between Callandar and Fort William, and of the hard-bitten, vigorous and courageous men who, in building this railroad, wrote their own glorious chapter in the annals of railroad construction on the North American continent.

Prosperous communities, great mining centers, farm lands and lumber mills that now dot the country are there today only because of the courage, the hardihood and the determination of those early builders.

The very idea of building a railroad through what was then described as the "rock wilderness of the north shore" met with bitter hostility from many sources, and particularly from the Canadian government of the day. It was strongly opposed by the great "Empire Builder," Jim Hill, who was at first a member of the Canadian Pacific syndicate.

Hill's proposal was to build the main line west from Sudbury to Sault Ste. Marie, to utilize steamers on Lake Superior from that point to a rail connection with his own St. Paul, Minneapolis & Manitoba Railway, which would connect with a CPR branch at the Manitoba border. On the part of the government there was frank incredulity that the difficulties of crossing the territory north of Lake Superior could be overcome.

It was chiefly through the masterful character of a former Illinois railroad telegrapher, William Cornelius Van Horne, that the "bridge" between eastern and western Canada was finally built on Canadian soil. On his first visit to Montreal in 1882, Van Horne, who had been brought to Canada as general manager of the new railway and who was soon its first vice-president, quickly came to realize that the CPR was primarily a Canadian project, a vital need of the new dominion, and was not in any way to be regarded as merely a feeder for the proposed route through the United States. He threw his weight against Hill's project and the latter withdrew from the syndicate.

Then began the almost overwhelmingly difficult job of construction. Unfortunately the actual records of the work are meager; in fact, the line itself is its principal record. Of its builders might well be quoted the famous inscription on Wren's grave in St. Paul's, London—*Si Monumentum, Circumspice,* which, freely translated, is to say, "For a monument, look around you."

One 200-mile stretch of proposed roadbed was succinctly described by Van Horne himself as "200 miles of engineering impossibilities." On this section one mile of track alone cost no less than $700,000 to construct.

The district through which the railway was driven was wild and rocky. There were mosquitos and black flies in Summer; in Winter there was terrible cold. Even today it is at best a grim and lonely task that has fallen to

the lot of the maintenance-of-way men who, by keeping the roadbed and steel in shape, maintain the flow of commerce between eastern and western Canada.

There are men in the service of the company whose job is solely to watch for rockfalls on certain sections of Schreiber Division. As recently as last November 12, one of them, Clarence Winterton, was washed clear off his feet at Coldwell, at a place where the track is 67 feet above the normal level of Lake Superior.

Coldwell is 19.2 miles west of Heron Bay, where the CPR line first comes within view of Lake Superior waters. The line here was blasted through rock.

Before November 12, Winterton had a lean-to from which he could watch the track while he warmed himself between patrols. It contained lanterns, flags, torpedos, other paraphernalia—and a cast-iron stove weighing 150 pounds. A wave lifted Winterton off his feet, throwing him against the rocky cliff and washing him over the ledge, where he was lifted a second later by another wave. The lean-to, including all the contents—even the 150-pound stove—disappeared completely, as did a masonry wall and 20,000 cubic yards of gravel, rocks and rip-rap.

This is the country where 12,000 men were steadily at work between 1881 and 1885, building, repairing and maintaining, digging, bridging and blasting the line through. Before they had the roadbed completed they had used more than two million dollars' worth of dynamite. They lowered lakes, they filled muskegs (one of which swallowed the track seven times), they diverted rivers, and at Jackfish Bay they were forced to build three miles of line in order to progress half a mile west.

The spirit with which all ranks of the company engaged in the endeavor was one of "fight." There was doubt that the line would ever go through, but not in the minds of the leaders nor in those of the men who hewed the permanent way and who one year carried on the work although their pay was three months in arrears.

The CPR project was, to use a topical word, "sabotaged" right and left by interested politicians and defeatist critics. The government of Sir John Macdonald, which had sponsored the enterprise and steered the charter bill through Parliament, was in a difficult position when the syndicate begged for a loan to save the empire railway from breaking up piecemeal before its completion.

It was at this time that George Stephen, president of the company, made a famous and stirring remark to his cousin and colleague, Sir Donald Smith, one of the principal members of the syndicate. The two men had pledged or sold almost everything they possessed, even to the linen of their households, in their effort to keep CPR's head above water. When it seemed that the government would not come to the rescue of the project it had fathered, Stephen, with characteristic pride, speaking of the apparently impending gathering of creditors, said to his cousin, "Donald, when they come they must not find us with a dollar."

By the side of this picture of the anxious railway builders is another and still more stirring one—one that is perhaps best illustrated by a quotation from a letter written some years ago by James Coughlin, longtime roadmaster of Nipigon Subdivisions, on Schreiber Division, north shore of Lake Superior.

Coughlin and his men started laying steel in the Spring of 1881 and continued until the Spring of 1885. Of his experience in those days he wrote: "We had to ride six or seven miles from the boarding cars to the track-laying machine on open flat cars, when the thermometer registered 40 to 45 below zero. We would stand together in close groups, and when the front men could not stand it any longer they would go around to the opposite side of the gang, and thus we kept moving until we reached our work. The same method was followed on the return trip in the evening. We had to use a tin stove and a piece of heavy zinc to heat the spikes sufficiently to prevent frozen heads from snapping off when they were being driven into the ties. We often found that the ties would split from end to end, so intense was the cold, if the spike turned on striking the sap."

The Lake Superior section was completed in 1885. The work was concluded under the most extraordinary circumstances, which led to great excitement throughout Canada and invested the still uncompleted "Pacific Railway" with a new atmosphere of importance, and, in fact, placed it in an entirely new light to the critics who had so bitterly opposed it.

Louis Riel, the volatile half-breed whose rebellion against the Canadian Confederation had been crushed by General Sir Garnet Wolsley in 1870, was reported at the head of a new Northwest rebellion.

Troops were rushed from Montreal and Toronto over the still-building CPR while construction gangs north of Lake Superior worked feverishly to complete their sections in time for the passage of the army.

When the last spike was driven at Jackfish Bay on May 16, 1885, the honors of the occasion were shared by the contractor and the military, for the spike, symbolic of the completion of one of the toughest jobs of railroad building on this continent, was knocked home twice. First to perform the operation was Walter Ross, contractor's superintendent; but when the following day brought a contingent of the Montreal Brigade garrison artillery on the scene, Mr. Ross had the spike pulled out to be driven in once more, this time by Lt.-Col. W. R. Oswald.

Subsequent chapters of the story turned out happily, it goes without saying. The Riel rebellion was crushed and the opening of the Canadian Pacific Railway's entire transcontinental line to through traffic between Montreal and Vancouver took place on June 28, 1886.

Thus was completed the most important empire highway to be built entirely within the empire itself. The 2,881.7 miles of line built by the Canadian Pacific Railway between Montreal and Vancouver has, in fact, no rival as a permanent empire highway. Not even the Suez Canal outranks it in importance, for the great waterway that joins the Mediterranean and the Red Sea is vulnerable to attack by land, sea and air.

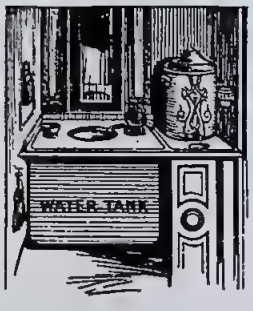
Courtesy Canadian Pacific

First train — first bridge picture.

Upper, the first train over the newly completed district north of Lake Superior was this dolled-up work train. Notice the feminine interest in the left background, and —yes, indeed—curtains in the windows of the engine cab. All passenger (?) equipment available was summoned for the occasion. One of the first pictures taken of a railway bridge in western Ontario is this view (lower) of the span over Nipigon River. Notice logs in tender.

Early stations of the Canadian Pacific looked like this one at Port Arthur, Ont., two miles north of the present station. Where it stood is now the center of the prosperous city and lake port. Though built of rough hewn timber, the old buildings had a certain distinction. Smaller towns still have stations like this but of more modern materials.

Courtesy Canadian Pa



Pullman Car Names

★ Who names the modern sleeping cars—and why are they named—and how?

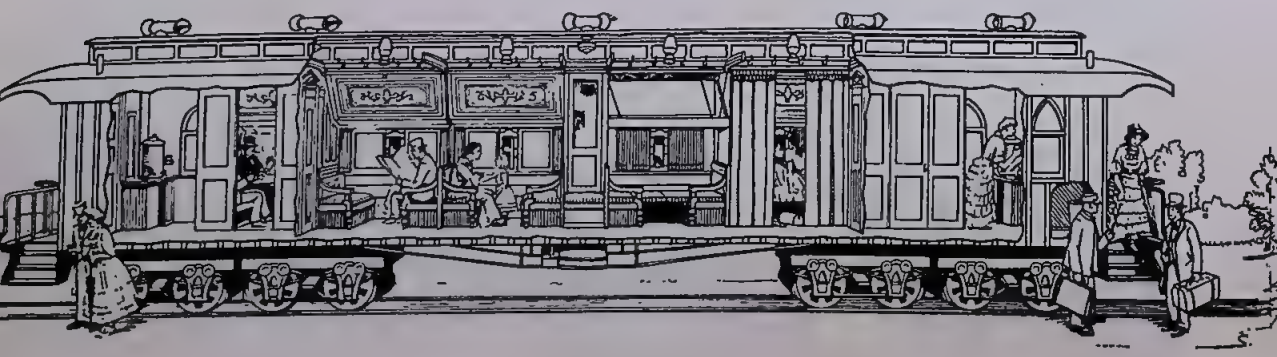
It is a settled belief in many parts of the United States that the credit—or blame—for naming Pullman cars once rested with the late Mrs. Frank O. Lowden, who was Miss Florence Pullman. It is still confidentially asserted that the daughter of the founder of the Pullman Company was launched on her career in nomenclature as a young girl, receiving $1 for each car name. Other versions made it $100 a car, while some solemn guesses were as high as $20,000 a year. As a matter of fact, she never had such a job and never named a car.

The first Pullman sleeping car was a remodeled Chicago & Alton day coach, No. 9, and it continued with its original designation, as did its twin, No. 19. It was then decided to letter the cars—*A, B,* etc.—but as there were but 26 letters to select from the numbers came back. This brought a conflict with railroad car numbers, and so each car received a definite baptismal name. In those times—the seventies—it was customary to name locomotives. Presidents of the roads and the United States, governors of the states, and other prominent men were honored by having an iron horse carry their names over the countryside. Incidentally, this practice has lately had a resurrection.

Car *A* was really the first named car, since it was called *Pioneer.* It was the first car built from top to bottom by George M. Pullman, and it cost $20,000. Hurriedly completed in 1865 so it could be used in the funeral train that bore the body of Abraham Lincoln from Washington to Springfield, Ill., it transported the family of the martyred president from Chicago to the Illinois capital. There can be no doubt as to the aptness of the name *Pioneer,* since this car led the march of progress into the waste lands of unimproved railroad travel.

Generally speaking, parlor cars were once supposed to bear feminine names and also those of flowers and birds. Nowadays, railroads sometimes want them named for cities and towns on their lines, and their wishes are often followed. Three parlor cars are named for women foremost in the battle for suffrage: the *Susan B. Anthony,* the *Lucretia Mott* and the *Elizabeth Cady Stanton.*

Sleeping cars have been named for rivers, lakes, cities, towns, countries, local historic figures, notables in the world's history, soldiers, poets, authors, battle fields, camps, etc. Some years ago the committee on nomenclature, composed of Pullman Company officials, evolved names to indicate, without reference to the list of cars, the different types of accommodations. For example, all car names preceded by *Mt.* or *Mountain* are observation cars containing 10 sections. The *Camp* and *Lake* cars are almost entirely of one type, 10



sections, drawing room and two compartments. A series of 10-section, two-drawing-room cars are named *Points*, such as *Point Alexander, Point Hope*, etc.

Saint before the car name means the car has 12 sections and a drawing room.

The parlor cars on the *Congressional Limited*, running on the Pennsylvania between New York and Washington, are named for signers of the Declaration of Independence and members of the Continental and Constitutional Congresses: Gouverneur Morris, John Hancock, Caesar Rodney, Alexander Hamilton, Thomas Jefferson, Benjamin Franklin, Charles Carroll, Richard Henry Lee, Robert R. Livingston, and Roger Sherman.

The *President* cars, named for Presidents Adams, Cleveland, Garfield, Grant, Harrison, Jackson, Jefferson, Lincoln, Roosevelt, and Washington, are a special type of compartment and drawing-room cars.

The names of men whose achievements have left a distinct mark on the history of mankind have been applied to cars. Among men so honored are David Livingstone, George Stephenson, Henry Stanley, Robert Peary, Walter Reed, George Westinghouse, Marco Polo, Davy Crockett, Eli Whitney, Henry Bessemer, James B. Eads, John James Audubon, Samuel P. Langley, and William Osler.

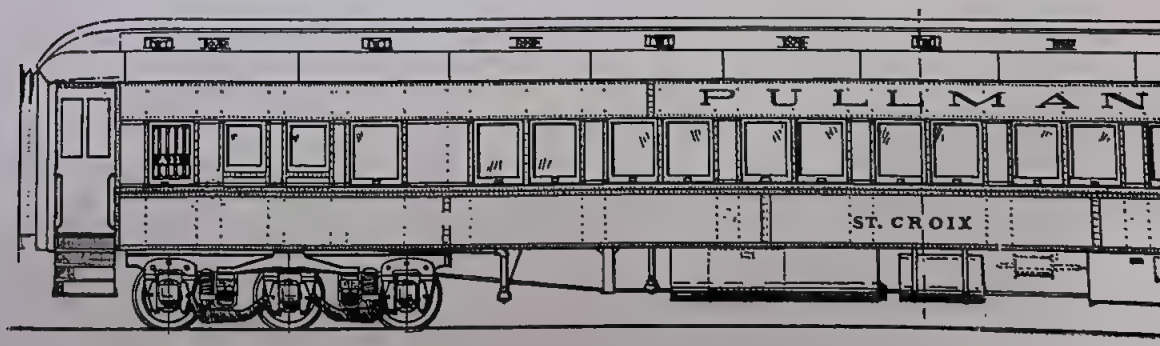
The advent of the light weight, streamlined trains brought forth many names suggestive of the territory traversed. Take some of the fleet on the Union Pacific-Chicago & North Western and Southern Pacific as examples. The *City of Denver* has such characteristic names as *Silver Dollar* and *Snowy Range;* the *City of Los Angeles* carries *Little Nugget* and *Rose Bowl;* the *City of San Francisco* cars have names inseparable from the Golden Gate metropolis, such as *Seal Rocks, Union Square* and *Nob Hill.* On the Rock Island's *Rocky Mountain Rocket* are *Garden of the Gods* and *Grand Mesa.* The *Chief* and *Super-Chief* of the Santa Fe run to Southwestern Indian names, including *Saydatoh, Tapacipa* and *Tsankawi.*

The room-lounge-observation cars on the Pennsylvania's streamliners *Broadway* and *Liberty* limiteds and *The Pittsburgher* indicate Eastern terminals with *Skyline View, Metropolitan View, Federal View* and *Washington View.* Two of the room-bar-lounge cars are *Colonial Dames* and *Colonial Congress.*

The New York Central's *Twentieth Century Limited, Commodore Vanderbilt, Southwestern Limited* and *The Detroiter* show island names applied to the room-lounge-observation cars: *Bedloe's Island, Manhattan Island* and *Thousand Islands.* Bar-lounge cars on the *Century* include *Century Club* and *Century Tavern.*

If you think Pullman cars have odd names ask some mother of six or more children how she'd like to christen about 7,990 more!

When the Pullman Company took over the Wagner Sleeping Car Company it was discovered that some 300 cars bore names duplicated among the Pullmans. Something had to be done in a hurry. Richmond Dean, then a vice-president of the Pullman Company, had charge of nomenclature at that time. In the early hours of the evening he had an inspiration. The public librarian of Chicago was a personal friend, and he got Mr. Librarian to open the library and, taking a corps of clerks there, he delved into ancient history, Greek and Roman. Within 24 hours there was a wholesale rechristening of Wagner cars. And that is how these names, which have caused comment for a quarter of a century, came to be applied to Pullman sleeping and parlor cars.



Iowa Interurban

★ New equipment speeds up the Des Moines & Central Iowa Railroad, makes the weeds fly.

By George Krambles.

THERE has recently been much comment on the modernization of the Des Moines & Central Iowa Railroad, which acquired a trio of steel cars to replace antiquated wooden cars on its interurban lines radiating from the Iowa state capital. Passenger service is operated on two branches, the Beaver Valley Division, extending 35 miles from Des Moines to Perry with a three-mile branch from Moran to Woodward, and the Colfax Division, 25 miles long, from Des Moines to Colfax. With the exception of Des Moines, which has a current population of about 145,000, none of the towns served has over 7000 population, and traffic is not heavy, although the prosperous farm countryside produces more patronage than equivalent areas farther east. The reason is that many Eastern districts have intense competition from the excessive network of tax-built highways. The company also has industrial switching service to Fort Des Moines, Valley Junction, and Urbandale, conducted with electric locomotives, making a total of 59 miles of single track, three of double track and 19 in yards and sidings operated by the DM&CI. The Des Moines Railway is affiliated with the company, but has its own trackage.

Power obtained from the Des Moines Railway at 22,000 volts is converted to 650 volts D. C. by substations at Bowsher and Mitchellville on the Colfax line, and at Beaver Valley Junction, Brennan, Hyperion, Herrold, Moran and Perry. There is also one portable substation which can be moved about as needed. This large number of substations relieves voltage drop which would otherwise occur since there is practically no feeder copper other than the trolley wire itself.

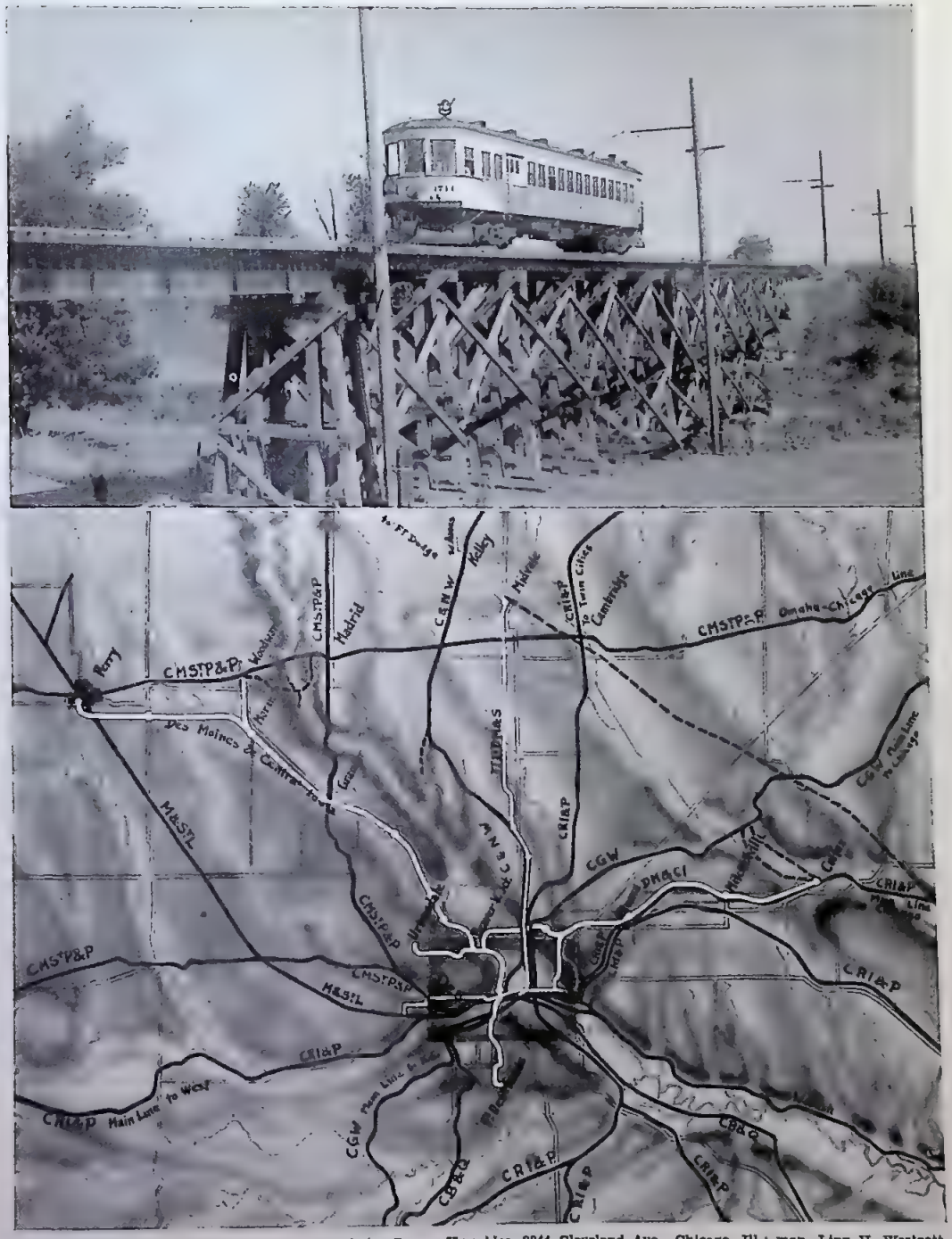
The line is laid with light rail, joints opposite, and this gives a characteristic sound to the wheel-clicks of cars. Railfan R. D. Kimmel, DM&CI assistant roadmaster, tells us 8000 new ties are laid each year. He displays a clever wrinkle in track maintenance to visitors—a fleet of trolley-powered "hand" cars, each with a revamped compressor motor, enclosed cab and overhead trolley pole.

DM&CI is unusual among electric lines in that it has operated the same timetable continuously since September 7, 1931, practically eight years, and no changes are in sight yet. This calls for five daily round trips to Perry, two trains making the side trip to Woodward, and two round trips to Colfax (except Sundays, when there is but one). Locomotives handle freight on the Perry line, which has many spurs, but freight on the Colfax branch is hauled behind the regular passenger cars.

Most interesting of all DM&CI facilities are its three new passenger cars, reconditioned when received from the Lake Shore Electric Railway, and placed in service on the Iowa line May 14, 1939. Originally built as part of an order of twelve in 1918, they carried numbers 170, 171 and 180 on the Ohio road and have been renumbered consecutively 1710, 1712 and 1714. Other changes include cutting in a baggage compartment and a complete repaint job, including stream style "prow sweep" effect on the front dash and sides. These cars accommodate 40 passengers in bucket type seats.

The new single-end cars have Westinghouse A. L. F. control and type 557 motors, rated at 150 horsepower each and geared to 67 miles per hour. Since DM&CI tracks are not prepared for this speed, orders are out to hold the new cars in the series control position except on the most favorable stretches of rail. Novel in Iowa—and entirely agreeable—are the chime whistles of these cars, which did much to fix them in the memory of Eastern fandom. In addition they have a small locomotive bell mounted over the left hand cab in true Iowa style.

To the scrap pile will go 10 old wooden passenger cars, numbered 1700-1709. Of



Photo, George Krambles, 2244 Cleveland Ave., Chicago, Ill.; map, Linn H. Westcott.

DM&CI serves rural countryside in Iowa.

Most of the line is over slightly rolling country and in flat valleys. The largest community is the terminal city of Des Moines, population about 150,000; next largest is Perry, which had 5881 inhabitants in 1930. All other towns are much smaller. The country is largely farming, raising corn, livestock, dairy products, and some grains. The heavy white lines are DM&CI trackage, extending northwest to Woodward and Perry, east to Colfax, and south to Fort Des Moines. The light white line to the north is the Fort Dodge, Des Moines & Southern, an agressive electric railroad doing a large freight business.

Top, W. C. Janssen, 820 Linn St., Peoria, Ill.; others, George Krambles.

these, 1700-1707 were built for the Inter-Urban Railway, DM&CI's predecessor, by the American Car Company; 1708-1709 were built by McGuire-Cummings for the Goshen, South Bend & Chicago Railway, ill-fated successor to the interurban property of the Chicago-New York Electric Air Line fiasco, where they were the *Ohm* and the *Ampere*. All of the wooden cars were equipped with General Electric 75-horsepower motors, control and accessories, and were arranged in the conventional baggage-smoking-and-passenger plan.

Since the new rolling stock from the Lake Shore Electric is the high point in DM&CI facilities, the following quotation from general notice No. 25 of the Des Moines & Central Iowa Railroad, appearing over the signature of C. H. McMurray, superintendent of transportation, is in order:

"These coaches are such that we may all feel proud of them, and employees should unite to protect and keep them so."

Railfans will certainly agree that after seeing these cars race the sun along the edge of Lake Erie for so many years it is a little difficult to get used to seeing them edge out of the station and round the corner of Second and Grand in Des Moines.

The right of way out of Des Moines is a valuable piece of private right of way from the terminal and switching standpoint. Running time of passenger service is somewhat improved by running over the right of way, although grade crossings every block slow down the cars almost to a stop, but freight is the big angle. For nearly a mile along the Des Moines River the DM&CI has extensive yard trackage and industrial facilities. This property right in the heart of the city is further enhanced by connections with a number of steam lines, including the Milwaukee Road Chicago-Omaha main line at Perry and Woodward, with the Rock Island at Altoona, and the Minneapolis & St. Louis at Perry. Connection is also made with the Fort Dodge, Des Moines & Southern, an electric line doing a considerable freight business to points farther north.

Camp Dodge, 12 miles northwest of Des Moines along the DM&CI, was an army training station during the last war and if reopened during the current army activity it will undoubtedly mean much additional business.

Old and new on the DM&CI.

No. 1706 (opposite page, top) was one of the eight cars built for the Inter-Urban Railway, predecessor of the Des Moines & Central Iowa. These cars had General Electric 75-horsepower motors and control devices and all were arranged on the cab-baggage, smoker, coach plan for single-end operation. Locomotive bells mounted on the front end of the roof are standard for these interurban lines. When the old cars were deemed too ancient for useful service the railway purchased three steel cars (two of which are shown opposite) from the Lake Shore Electric Railway, which once ran between Cleveland and Toledo, O. (The Lake Shore was a much better line in its day, but government-built highways were too much competition for privately-maintained tracks in Ohio.) The DM&CI leaves Des Moines on its own right of way. This keeps street traffic off its tracks, but a number of grade crossings prevent high speeds. At Beaver Valley Junction there is a connection with the city lines. The connecting track is not in regular use. The city car in the lower photo (opposite) was supplied for visiting railfans, connecting with No. 1714 at Beaver Valley Junction. To the right, No. 1712.

George Krambles.

Letters

★ B&H not last two-footer; extra sand boxes; other comment.

B&H Not Last Two-Footer.

THE Bridgton & Harrison sketch in April TRAINS interested me. However, the B&H is *not* the last two-foot gauge road; the Monson Railroad [Monson Junction to Monson, Me.; 6.16 miles; freight only] is just as alive as the B&H and will probably be the *last* two-footer, the B&H being a goner, I fear.

"Colorado Railroads" is very good. The subject, its treatment, and the photo supplement will interest every established fan and should make interesting reading for those less familiar with the subject. On page 9 Eleven-Mile Canyon on the old Colorado Midland is called Granite Canyon: I think Granite Canyon was farther west, approaching Leadville, and the alternative for Eleven-Mile was South Platte Canyon, although I'm not sure.

Because of your policy of writing to appeal to the general public I have to stop and consider the situation as I read an article; the angle or treatment clashes with my trained fan senses, then assumes an appearance of pretty sound logic and interesting reading from this new point of view.

Linwood Moody.

Union, Me.

[With all good wishes for the continued success of the Monson Railroad, we point out that the B&H may yet be saved in its entirety, as noted in "Waybills," page 3, last month.—*Ed.*]

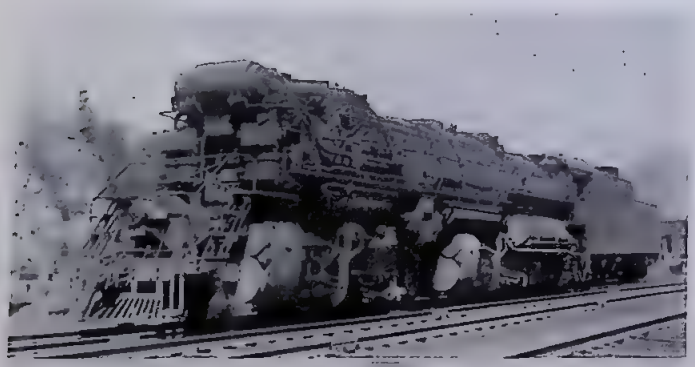
D&RGW's "Rising Sun."

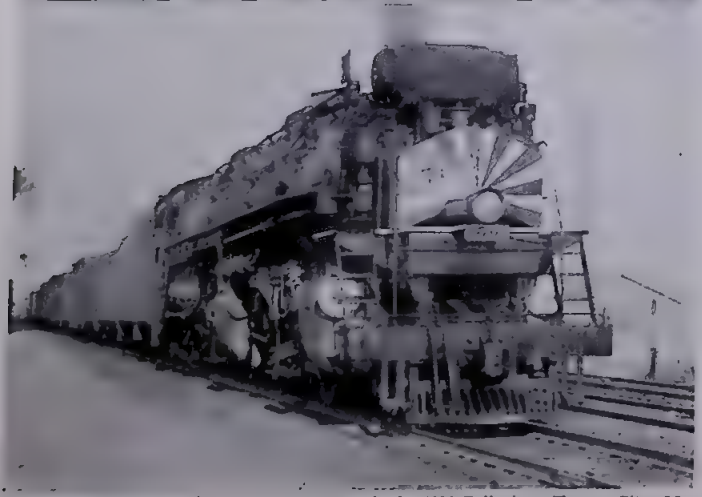
PERHAPS some of TRAINS' readers have wondered about the fan-shaped housing above the pilot of D&RGW No. 3602, pictured on pages 26 and 27 of the March issue. It is a sand box, used for the front set of drivers. Apparently the original domes were insufficient for both sets of drivers, as the 3700 series engines received these auxiliary boxes before they were a year old. No. 3602 was one of the first 3600 series to receive the installation. Those now being installed on all 3600's are much lower, as shown in the accompanying photo.

No. 3708 hit a school bus a couple of years ago, and shortly after that silver stripes were applied to the sand boxes, presumably to aid motorists in seeing the approaching engine when visibility is poor. This has no significance as a Japanese flag or any emblem of the D&RGW so far as I know.

R. H. Kindig.

3831 Perry St., Denver, Colo.





Top, R. H. Kindig; bottom, Wesley Krambeck, 4406 Belleview, Kansas City, Mo.

Auxiliary sand boxes.

These photos illustrate (top) the position of recent installations of D&RGW auxiliary sand domes and (bottom) the silver-paint striping which has been added.

Add Sacramento Northern.

You remarked that Messrs. Ward, Hannah and Alter "spent many hours gathering material and photographs" for the Sacramento Northern story in March Trains. This is an understatement; to secure the pictures they had to do some tall hiking. For example, to obtain his shot of train No. 2 emerging from mile-long Redwood Tunnel, Art Alter had to rise before dawn, suffer the humiliation of riding as far as possible into the hills in a "fragrant" rubber-tired public carrier (don't breathe the word), then climb a steep two miles to skyline, followed by an equally precipitous descent into Redwood Canyon over a tortuous, narrow road. A fellow who will do that time after time in search of the spirit of a trolley line, in order that he may pass it on through the medium of photography and words for others to enjoy, is truly a railfan.

Your striking map of California is unusually complete and accurate, and it was only after a good deal of examination that I discovered the omission of an interesting, if unimportant, branch of the SN, the Walwood line. Three miles in length, this freight route left the main at Meinert (half way between Walnut Creek and Concord) and ran southward through beautiful groves of walnuts. About 250 feet of the line is still in place at Meinert, and is used for storage of freight cars for a nearby cannery.

The article unintentionally gave the impression that there has been no passenger service north of the car ferry since November, 1940. While it is true that interurbans no longer operate beyond Pittsburg, three northern division street car lines were still running over the interurban and local trackage the last I heard. Of these, the Chico line extends beyond the end of the interurban track for a mile, running down the side of a highway on a right of way over which shade trees shelter trolley passengers from the blistering Summer sun—and from hit-run drivers!

Roy Covert.

2217 Oregon St., Berkeley, Calif.

[Credit is due Clement Fischer Jr., passenger agent of the Santa Fe (Coast Lines), who prepared most of the history of the Sacramento Northern as printed in Trains. Copyrighted, it was originally published for distribution on a California-Nevada Railroad Historical Society mystery excursion. Well done, Mr. Fisher!—*Ed.*]

Original Toonerville Trolley.

Back in 1922 I was in Medford, Ore., investigating the possibilities of a series of interurban lines in the then booming Rogue River Valley. Natural nucleus for such would have been the old five-mile-long Rogue River Valley Railroad, built in pioneer times and still hauling its freight with an antique Forney from the New York Elevated. It had been electrified about 1915 between Medford and Jacksonville and had acquired somewhere an old double-truck Cincinnati Car Company product, equipped with two motors set in Taylor maximum-traction trucks. These motors had burned out, however, and the line—rather than rebuild them—was operating a neat single-truck pre-Birney car built about 1910 for the then defunct Medford Traction Company. Needless to say, on the rough track the ride was slow and not too comfortable.

The motorman was a grizzled old hard rock miner who had been given the job as a sort of pension by the mining operator who owned the line. Jolting over the rails, I asked him what was the fastest time he had ever made over the five miles of route.

"Do yuh mean from Medford to Jacksonville, or Jacksonville to Medford?" he asked.

I answered that I didn't particularly care; all I wanted to know was his fastest time in either direction.

"Well, sir," he drawled, "one night when I didn't have no passengers, I opened her wide up and I went from Jacksonville plumb to the depot in Medford in 19 minutes!"

Holding on for dear life as the car jerked along on five points, I asked if he didn't think that was pretty hard on the equipment entrusted to him.

"I don't rightly know about that," was his comeback, "but it wuz shore hard on me!"

David L. Stearns.

764 North Point, San Francisco, Calif.

Silver Cascades Trestle.

The pictures in the February issue of Trains, concerning Silver Cascades Trestle on the Corley Highway (formerly the Colorado Springs & Cripple Creek District Railroad), brought back memories for me, as I have crossed this trestle seven times—thrice on foot during the latter part of the construc-

tion period, in 1900 and 1901; twice by train in late 1901; and twice by auto in 1938, when I visited Colorado after an absence of more than 36 years.

During early operations of the railroad there were many such bridges as Silver Cascades Trestle. During my trip to the summit and back in 1938, I found only two bridges remained—Silver Cascades and another at Bear Creek Canyon. Many were filled in during operations of the railroad and more were gone around as they are now doing at Silver Cascades. If they cut out Bear Creek Canyon Bridge, much of the scenic part of the highway will be lost, especially the view of Colorado Springs and nearby plains.

It may be of interest to you that as late as May, 1938, four of the Short Line locomotives were still standing in the place where the railroad yards used to be: one of the 2-6-2 switchers, probably No. 102, and three of the 2-8-0's, Nos. 1, 6, and probably No. 4. All distinguishing marks were removed, but visible on two tenders were the numbers 1 and 6.

Hazen A. Stanley.

582 21st St., Oakland, Calif.

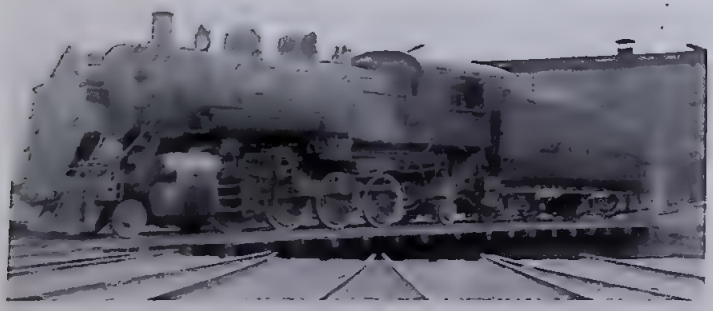
Colorado Comments

After publishing the story "Colorado Railroads" in the April issue of Trains, the editorial department received material and photographs enough to write two or three more articles on the railroads of Colorado. Much thanks to the many helpful contributors. Future articles on Colorado are hereby promised.

Among the interesting comments and corrections, Mac Poor of Chicago points out that the DB&W is the Denver, Boulder & Western rather than the Denver, Boulder & Ward. Perhaps more important is the correction on the statement made that all locomotives of the Midland Terminal Railway are Consolidations. As a matter of fact, No. 61 and No. 74, both recent acquisitions, are Mikados. No. 61, in its own right, is a Consolidation, but the Midland Terminal had to add a pair of trailing wheels to reduce the axle load (MT has fairly light rail). Photos on this page show No. 61 and also No. 55, which is typical of many of the Consolidations on the road. Both engines are Schenectady-built.

The Colorado & Southern's narrow gauge line to Idaho Springs and Blackhawk has officially been abandoned and will not be available to rail fans this Summer as had been hoped. Trains intends to run a story on locomotive No. 71, which is to rest for posterity on the site of the old station in Central City.

S. H. Fredericks Jr. of Lockhaven, Pa., suggests a similar article on the railroads of Pennsylvania. To quote Mr. Fredericks, "These logging and mining lines of the eighties and nineties even operated passenger service over sketchy roadbeds up and down just as steep grades as any in Colorado even if the altitude wasn't so great. Many had picturesque names like Cammel & Black Forest, White Deer & Loganton, Tuscarora Valley, and even a five-mile-long outfit called the Oregon & Texas."



Bernard Corbin, Red Oak, Ia.

Was Consolidation; now Mikado.

No. 61 of the Midland Terminal was originally a Consolidation, but to reduce the weight on drivers a trailing truck was added. No. 55 is a typical MT Consolidation type locomotive.

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The Month

★ Equipment purchases boom as Defense gains stride.

★ The buying of new railroad equipment has assumed boom proportions. *Railway Age* reports orders for more than 100,000 new freight cars in the last 12 months and the Association of American Railroads recommends the purchase of 270,000 more cars in the next two years. Unfortunately, the traffic which requires all these cars is war goods, and when peace returns the railroads are certain to find themselves burdened with excess cars and excess fixed charges incurred to finance the equipment. Just in the first four months of 1941, *Railway Age* totals show orders for 419 locomotives, 43,539 freight cars, and 328 passenger-train cars. The latter figure is larger than the annual total for each of the last three years.

★ The three Chicago-Florida coach streamliners placed in service last December for the Winter traffic have proved so successful that they will be continued during the Summer.

★ Daniel Willard is no longer president of the B&O. He has resigned after 31 years in the position and Roy B. White, former president of Western Union, succeeds to the B&O presidency. "Uncle Dan," dean of railroad presidents, becomes chairman of the board for B&O.

★ Send notices of fan trips before the first of the month preceding date of issue or they cannot be included in TRAINS.

Fan Trips: War conditions have forced railroads to cancel arrangements for inspection of yards and shops and for photography on railroad property. Railroad enthusiasts all realize the circumstances and gladly cooperate. While fan trip possibilities are necessarily curtailed, it should be noted that trips over unusual routes such as freight-only lines, and to spots of scenic interest, are still possible, and TRAINS urges fan groups to arrange such trips as alternatives and as a possibly welcome change in activity.

May 29-30-31, June 1, over Wabash to Decatur, Ill., St. Louis, Chicago, leaving Detroit 8:30 p.m. Sponsored by Michigan Railroad Club. Fare, $14.90. Details from George Kuschel, 4050 Joe Street, Detroit.

May 30-31, June 1, over interurban lines in eastern Iowa. Further information from Central Electric Railfans' Association, 1240 Edison Building, Chicago.

June 14-15, from San Francisco over Northwestern Pacific and California Western Railroad & Navigation Company to Fort Bragg in the redwood country. Details from Northern California Railroad Club, P. O. Box 47, Mill Valley, Calif.

June 15, from Los Angeles: Pacific Electric Orange Empire trip to San Bernardino, Redlands, Riverside, and Arlington, leaving Main Street depot 9 a.m. Fare, $2 in advance, $2.25 at the train. Reservations of Railroad Boosters, 518 Pacific Electric Building, Los Angeles.

June 15, from Chicago over little-used lines of the Burlington to Streator and Denrock, through attractive scenery. Details from Railroad Club of Chicago, Room 229, Dearborn Station, Chicago.

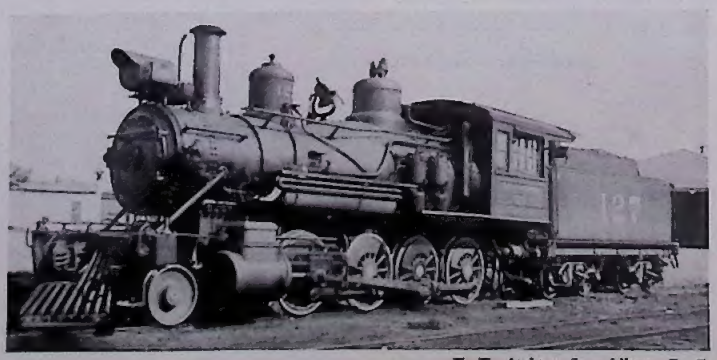
June 15, from Buffalo over Pennsylvania Railroad and Coudersport & Port Allegany Railroad. Wooden coaches, gondola car, caboose on C&PA. Leave Buffalo 9:10 a.m. Fare $3.95. Sponsored by Buffalo Division, Railroad Enthusiasts. Details from R. H. Shapley, 178 Box Avenue, Buffalo.

June 22, from Jersey City over Bergen Cutoff, Graham Line, Wyoming and Jefferson Divisions and main line of Erie, leaving 8:45 a.m. daylight saving time. This 411-mile trip was postponed from April 27 on account of shortage of equipment. Fare, $3.75. Sponsored by New York Division, Railroad Enthusiasts. Reservations with E. A. Hansen, Box 63, Packanack Lake, N. J.

June 22, from Philadelphia over Pennsylvania Railroad and entire Maryland & Pennsylvania Railroad, leaving Broad Street Station 6:40 a.m. standard time. Fare $3.25. Sponsored by Philadelphia Chapter, National Railway Historical Society. Tickets may be bought and train boarded at stations around the circle, Lancaster, Philadelphia, and Baltimore. Details from Harry Albrecht, 235-B Sansom Street, Upper Darby, Pa.

★ *Rear Cover*: Erie locomotive 3358, a 2-8-4, in action on a train of 85 reefers out of Maybrook Yard. It is about to cross the New York, Ontario & Western at Campbell Hall, N. Y.

★ Among abandonments is the 11.2-mile Augusta Northern running from Saluda, S. C., southward to Ward, where it connected with Southern. Bereaved was the 127 (photo), ex-Southern 127, only engine.



F. E. Ardrey Jr., Aiken, S. C.

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See page 50.

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